

FIG. 1

## WORKFLOW MANAGEMENT ARCHITECTURE

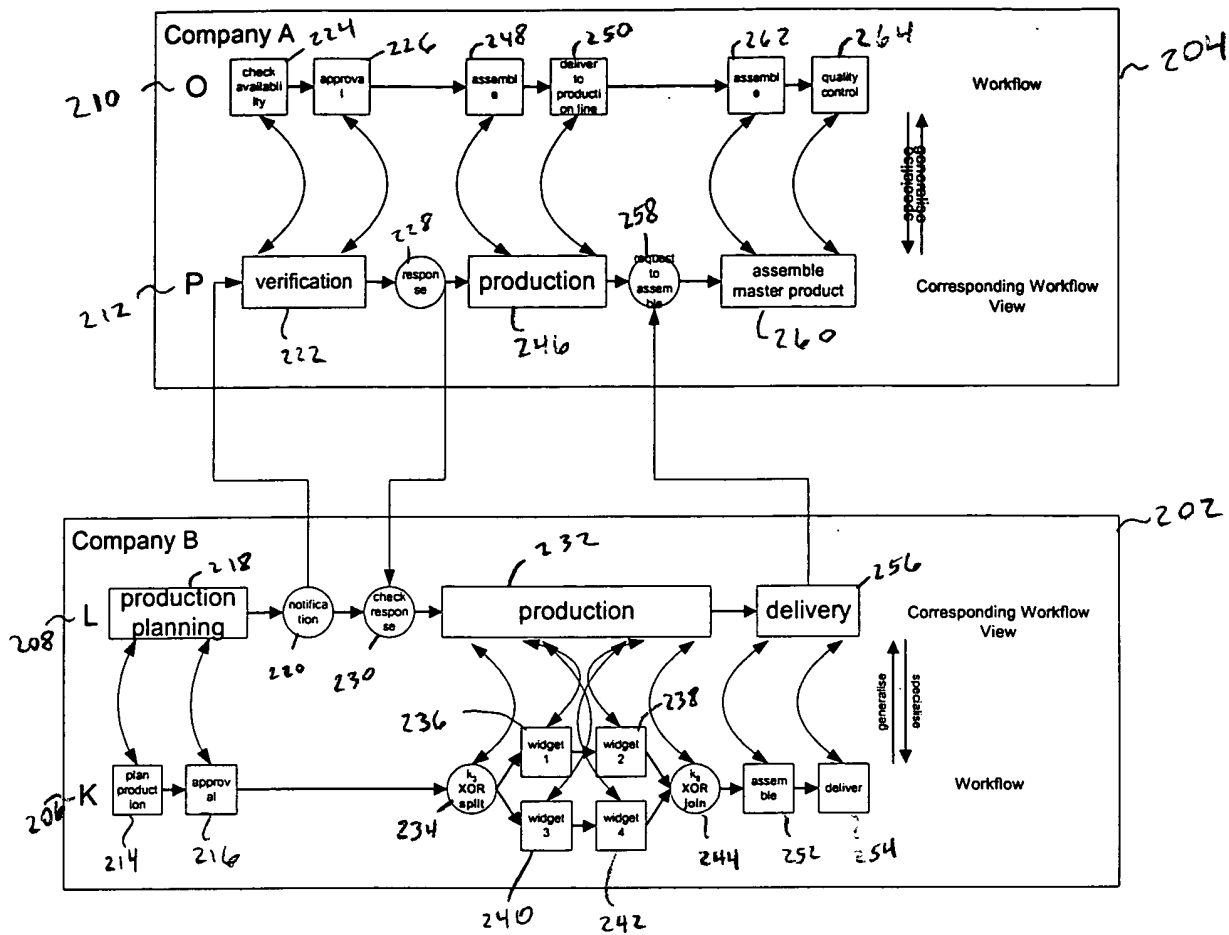


FIG. 2

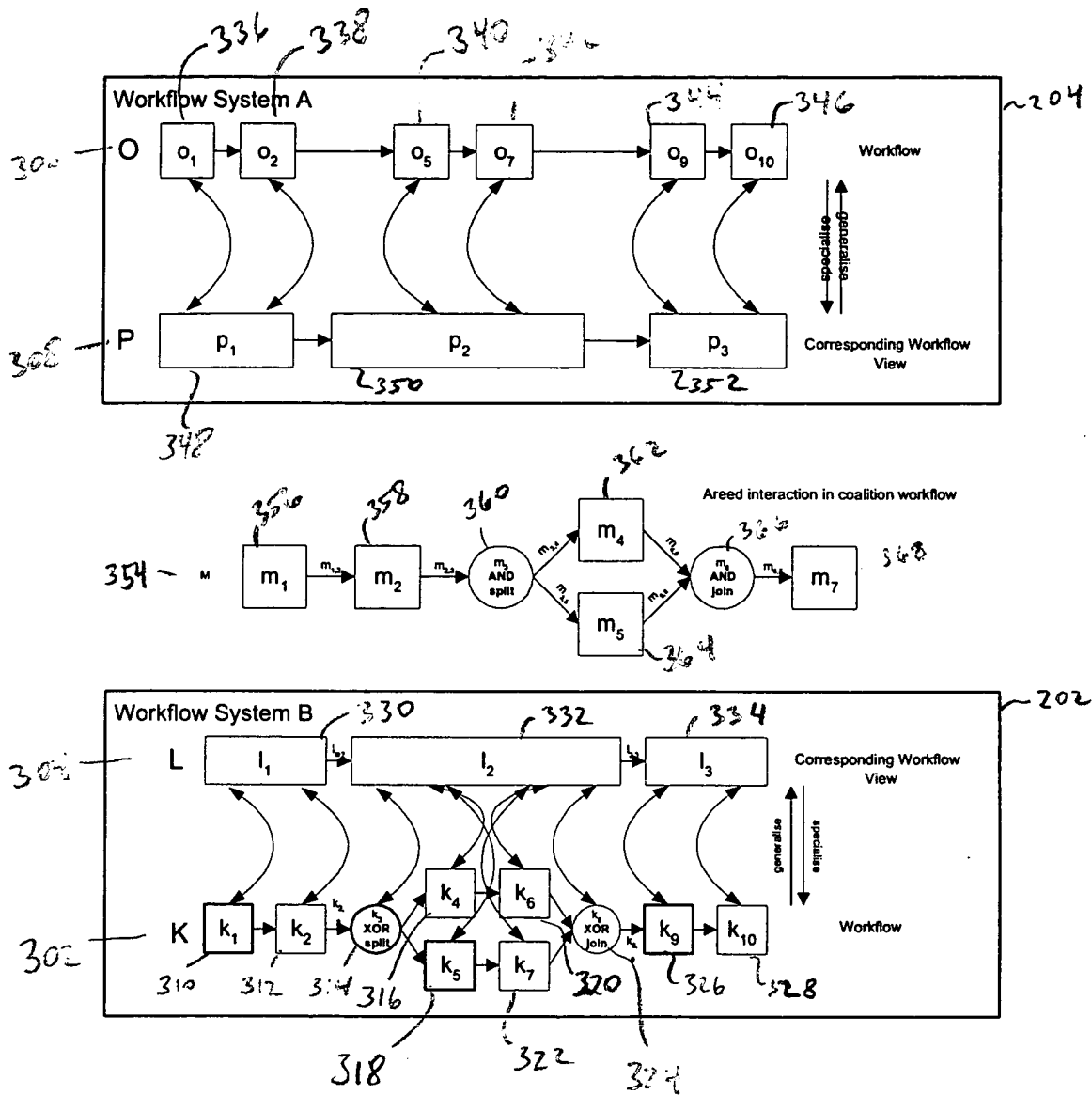


FIG. 3

400

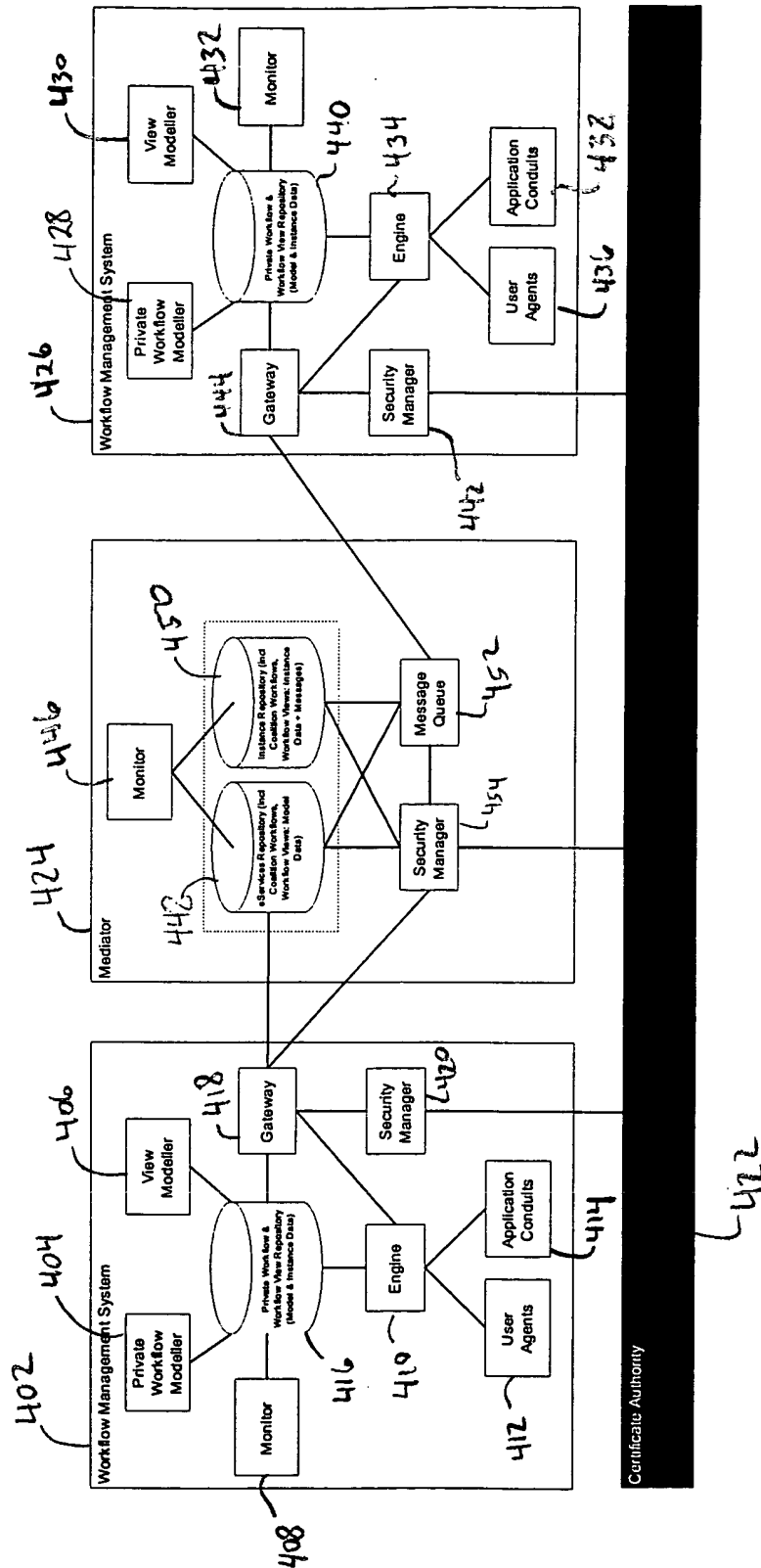


FIG. 4

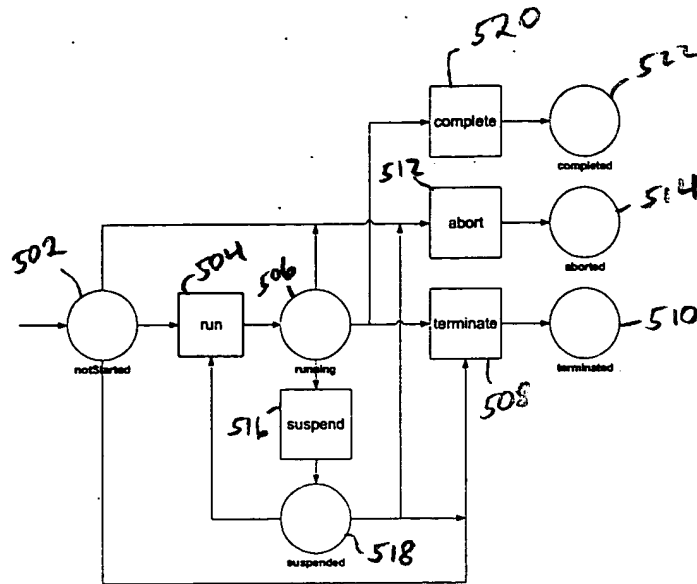


FIG. 5

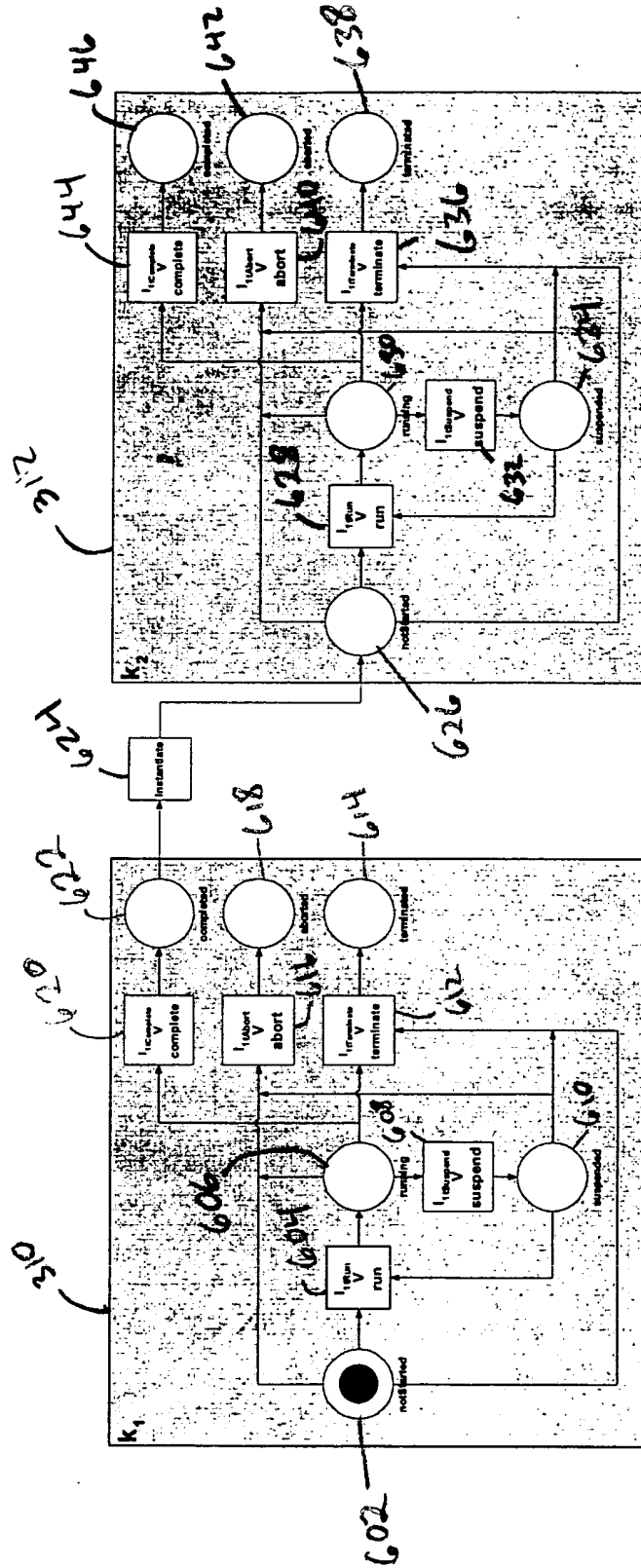
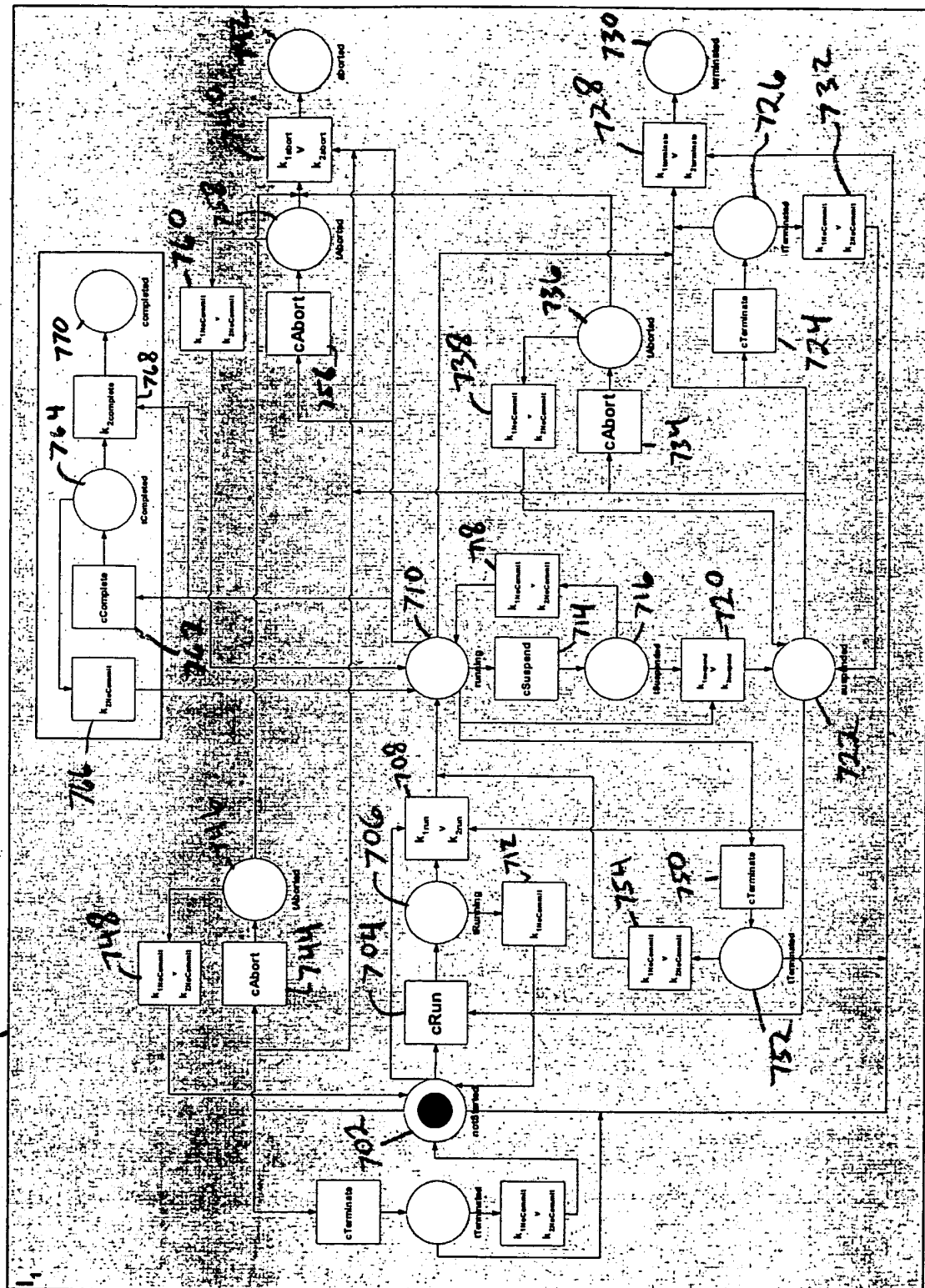


FIG. 6



2017

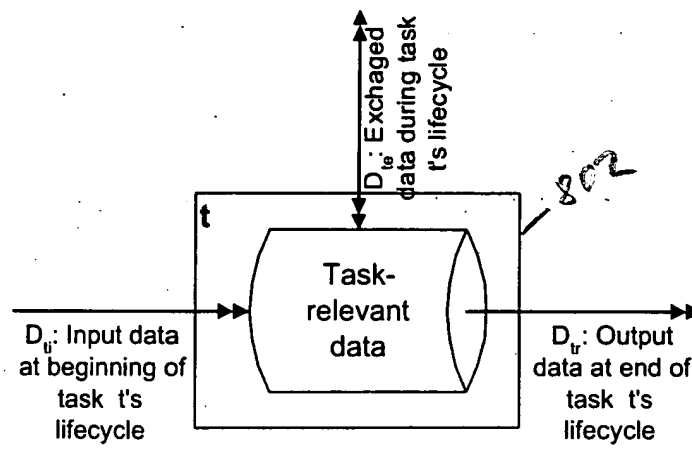


FIG. 8



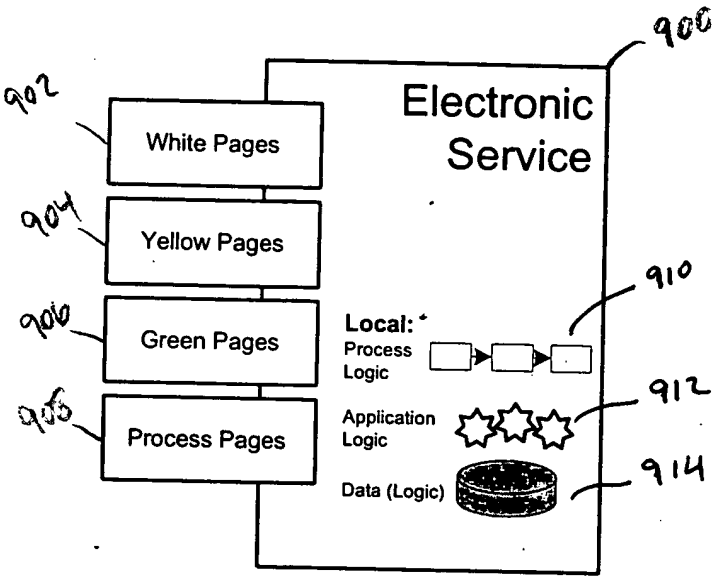


FIG. 9

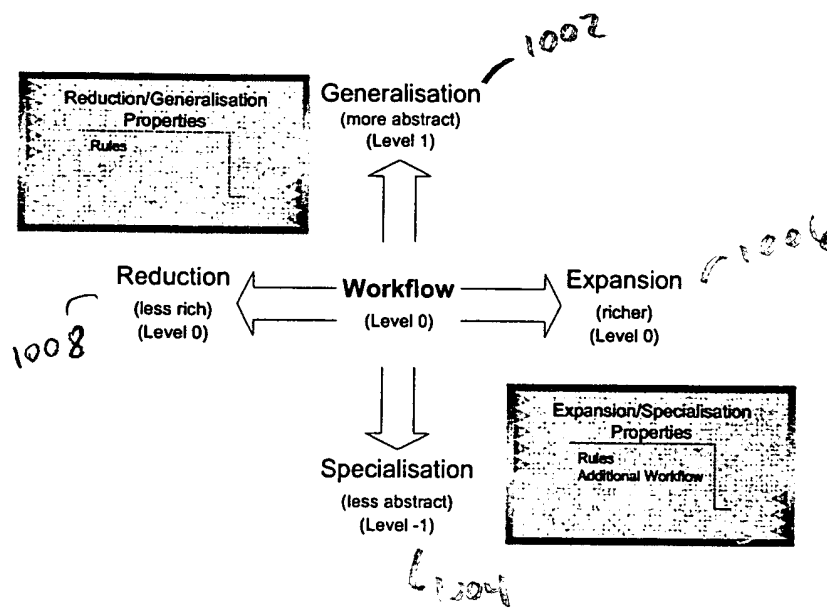


FIG. 10

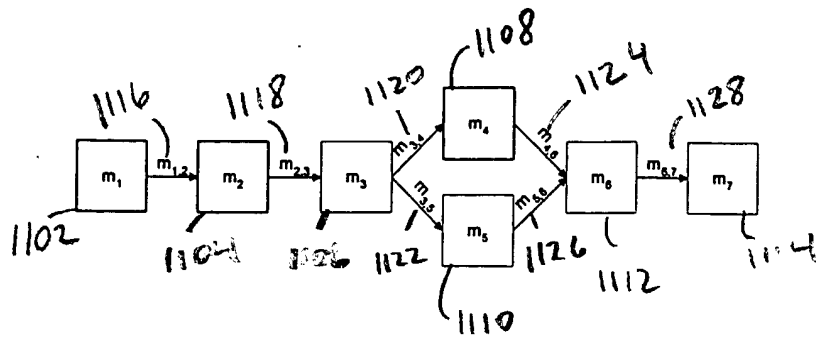


FIG. 11

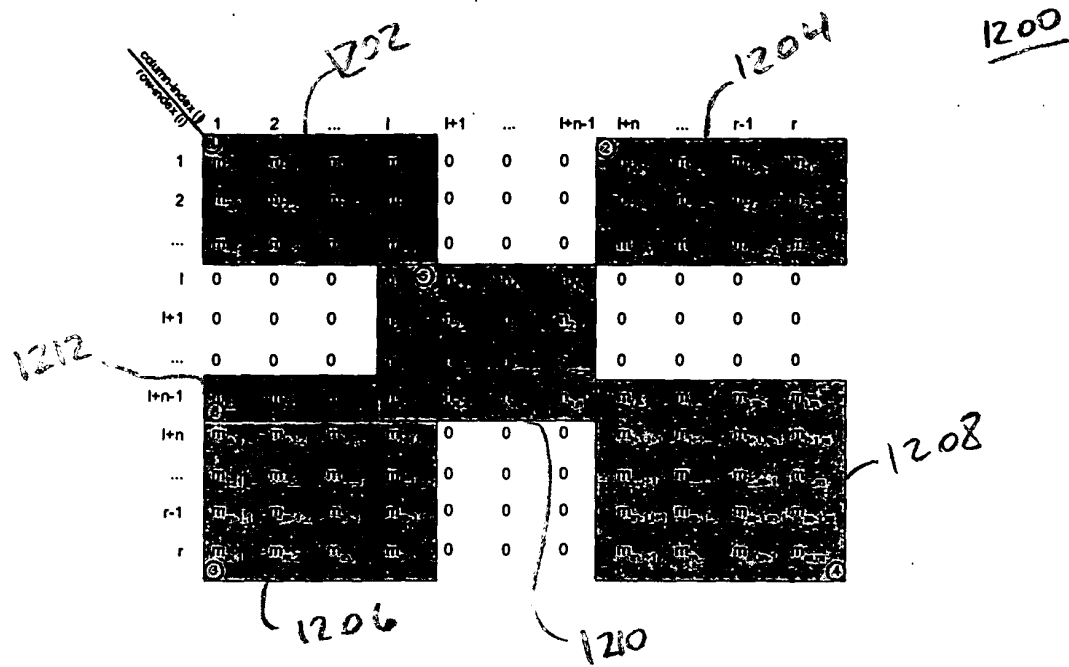


FIG. 12

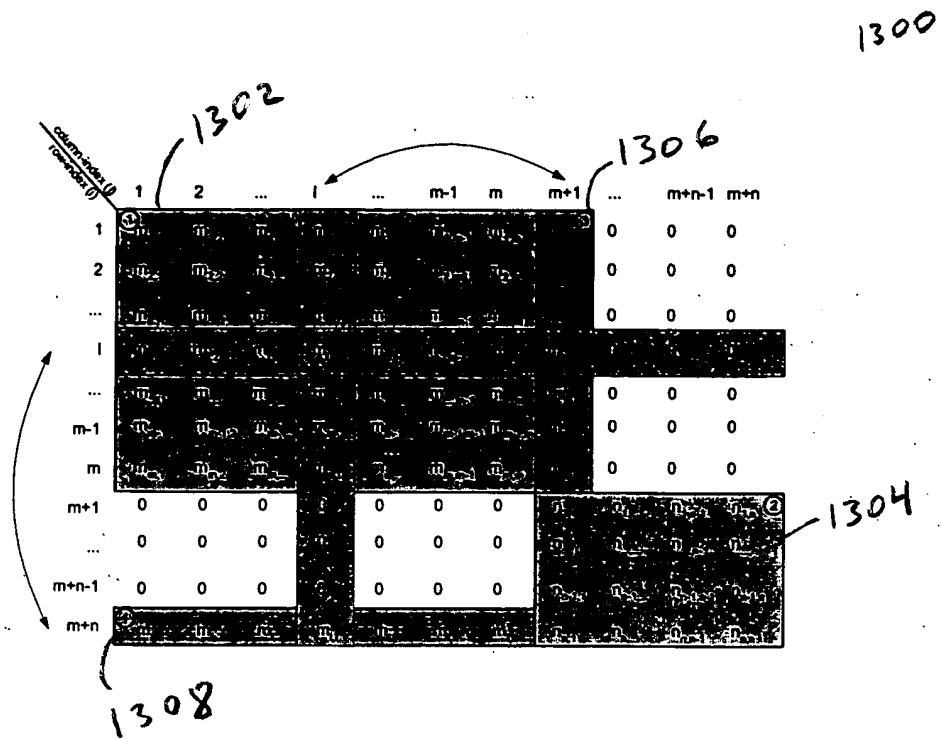


FIG. 13

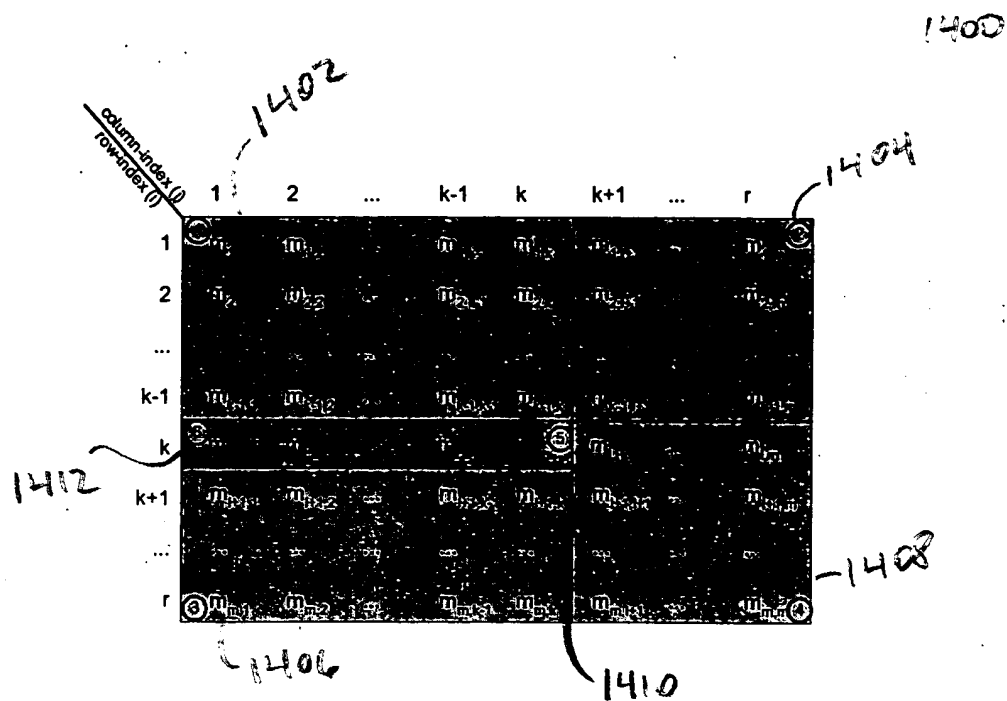


FIG. 14

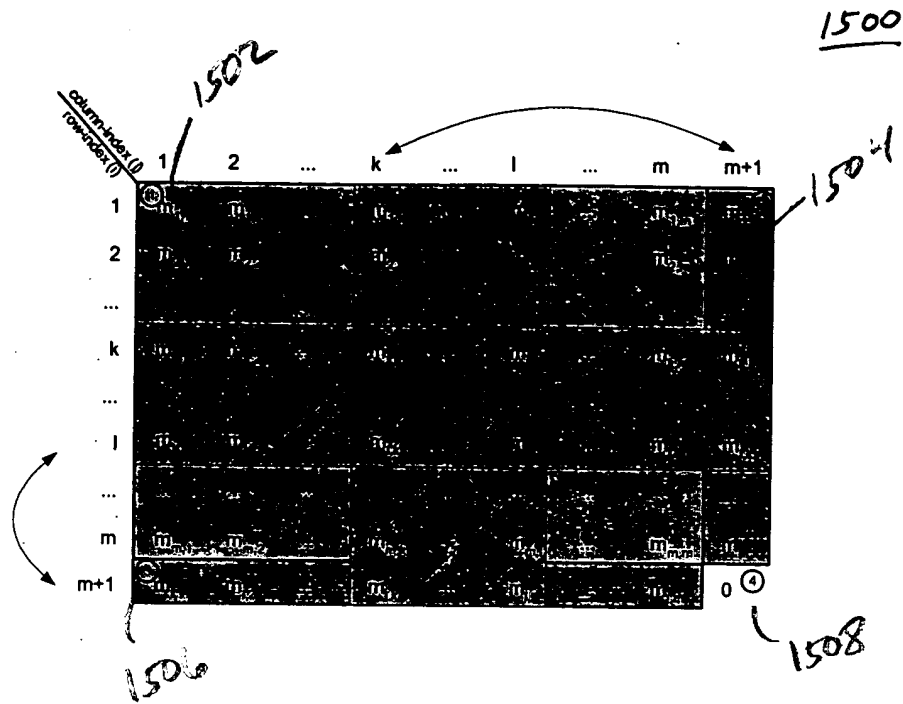


FIG. 15

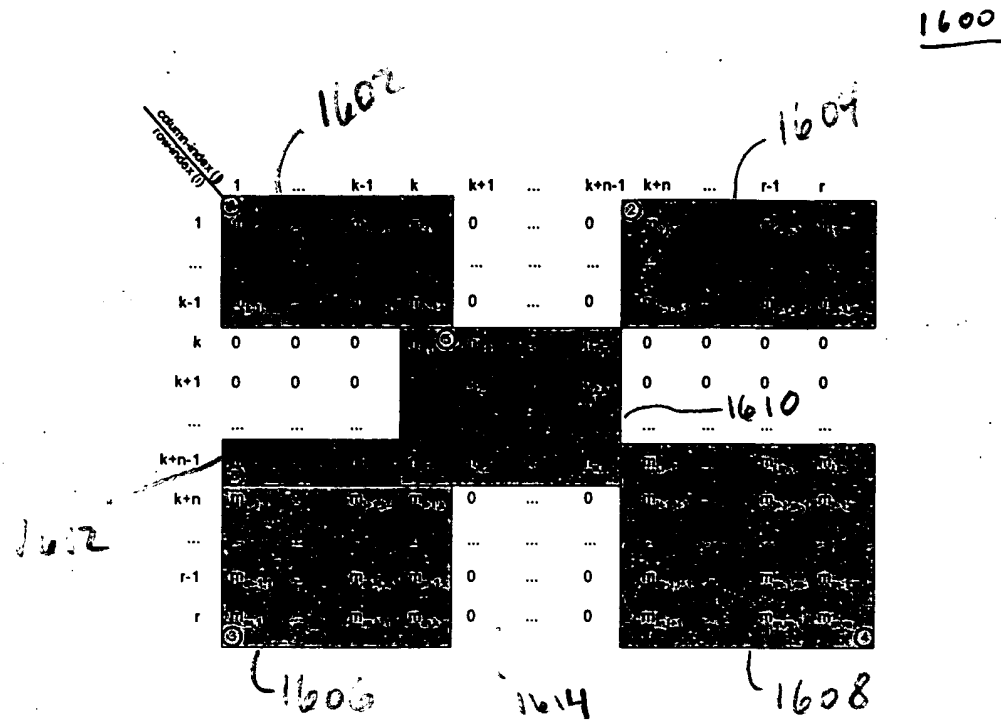


FIG. 16



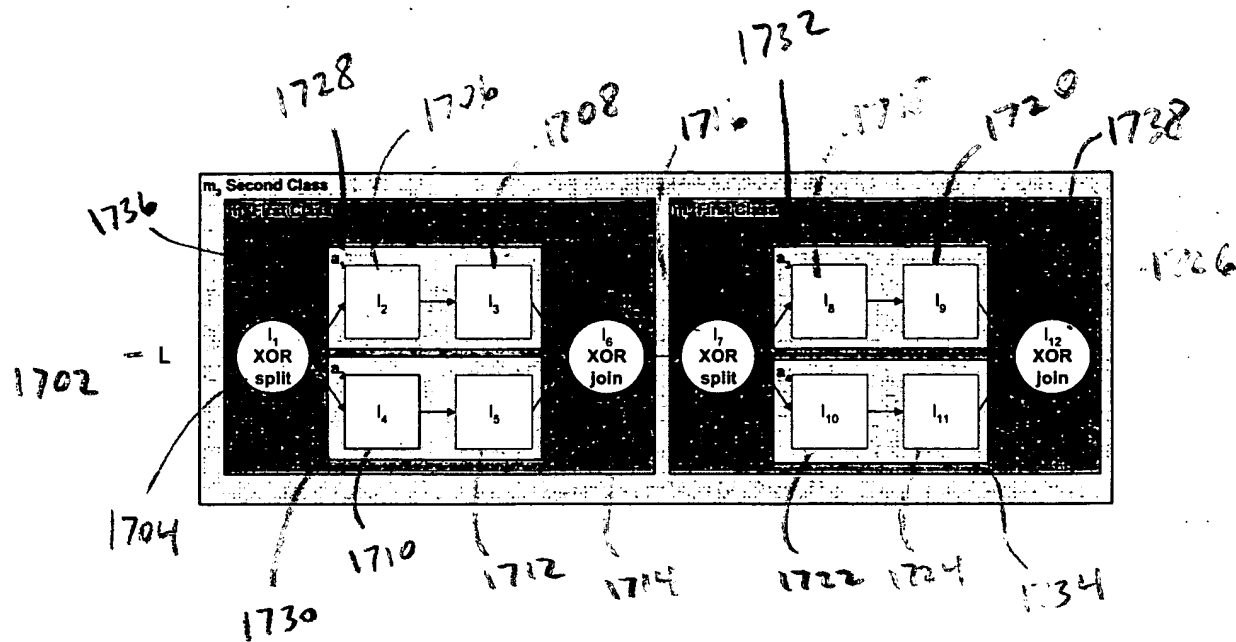
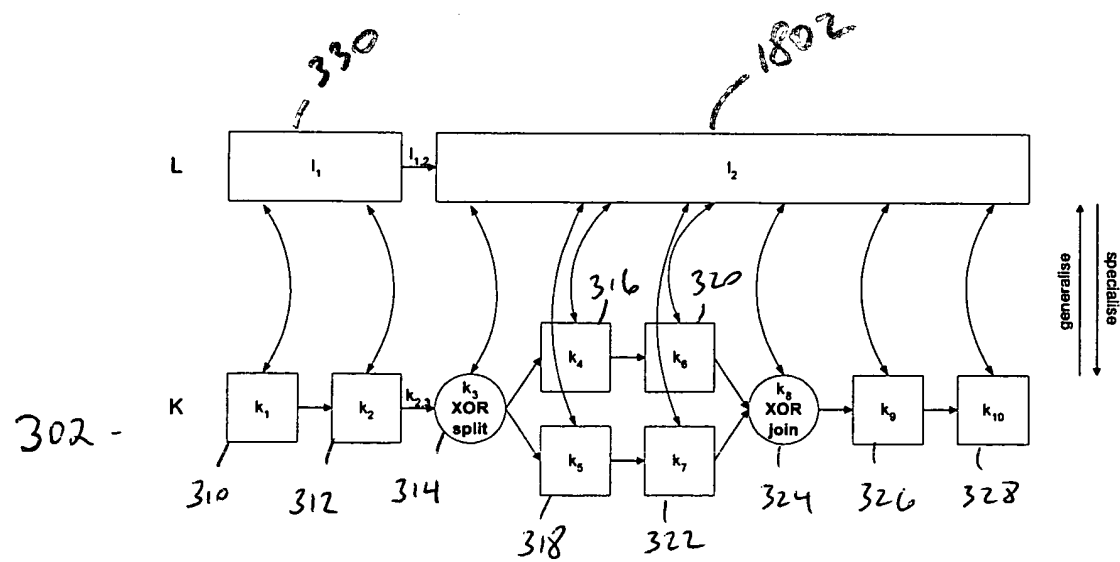


FIG. 17



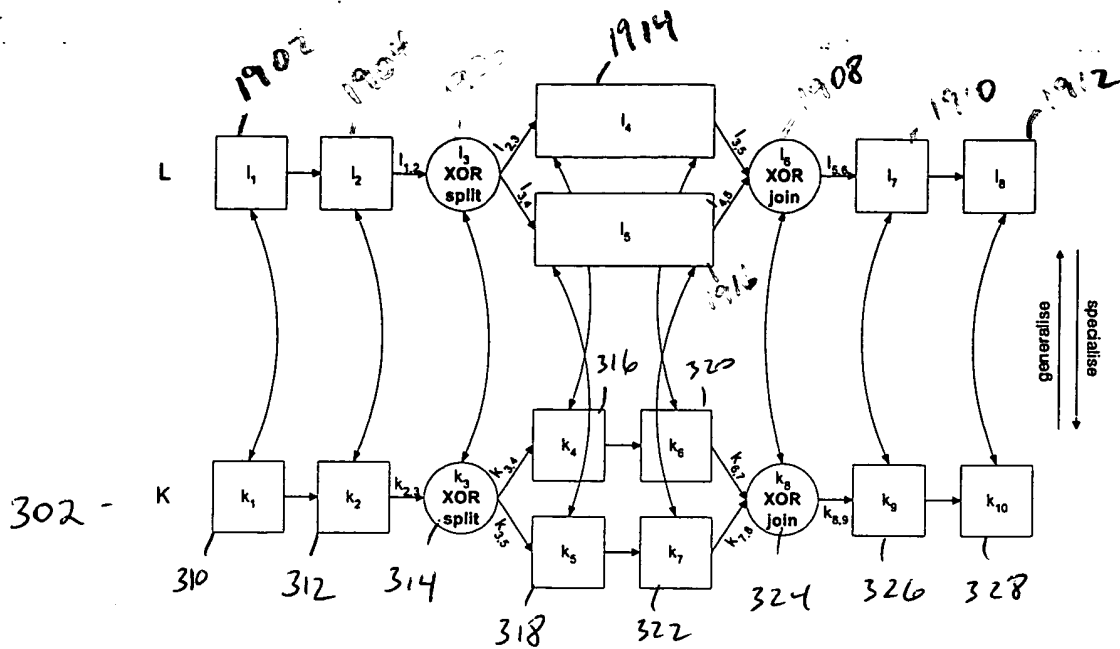


FIG. 19

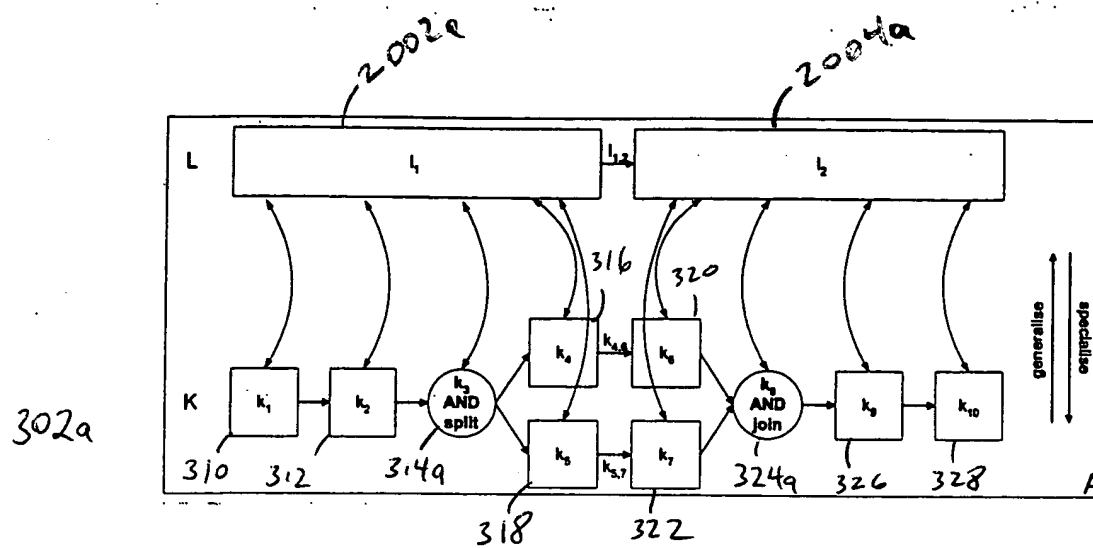


FIG. 20A

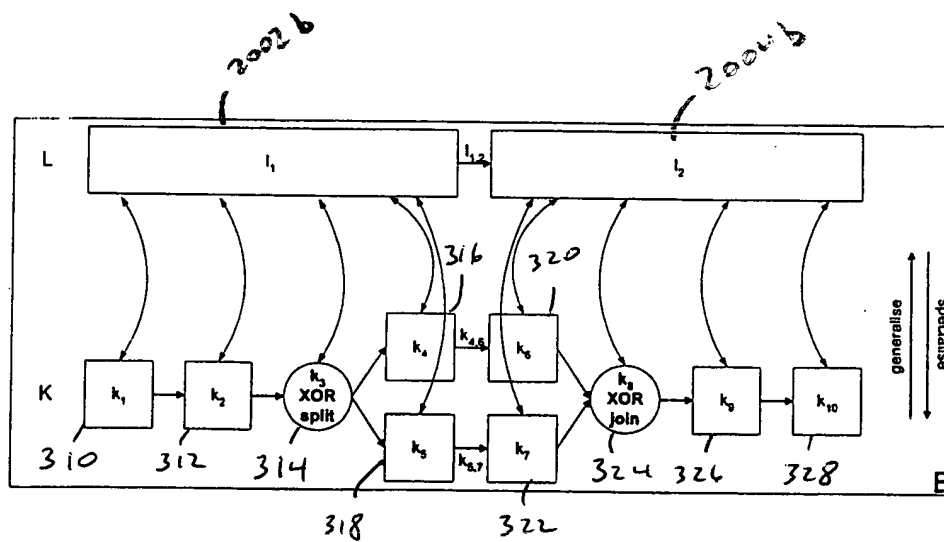


FIG. 20B

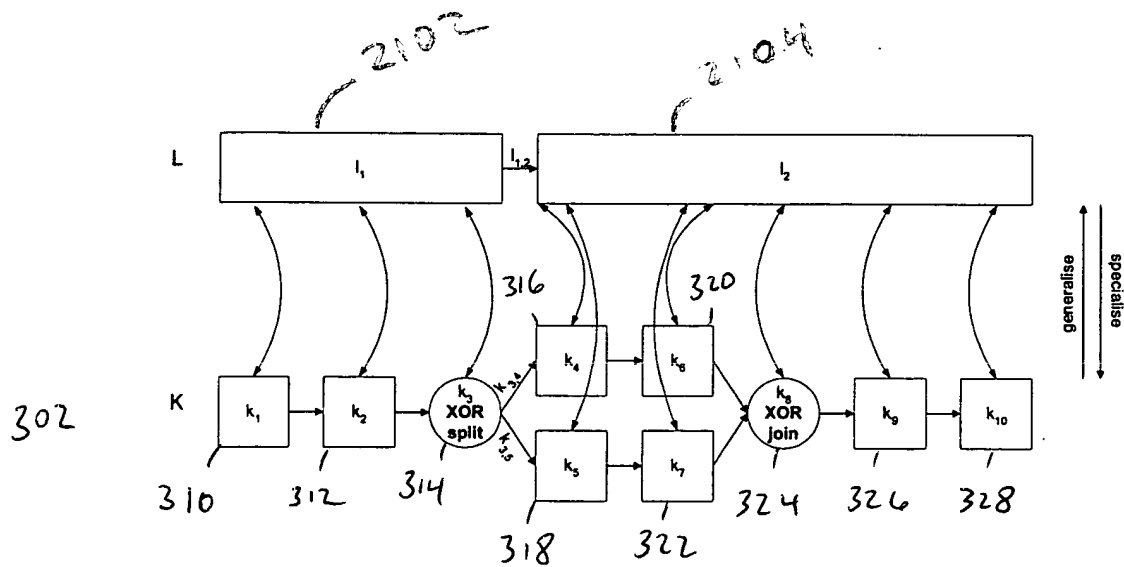


FIG. 21

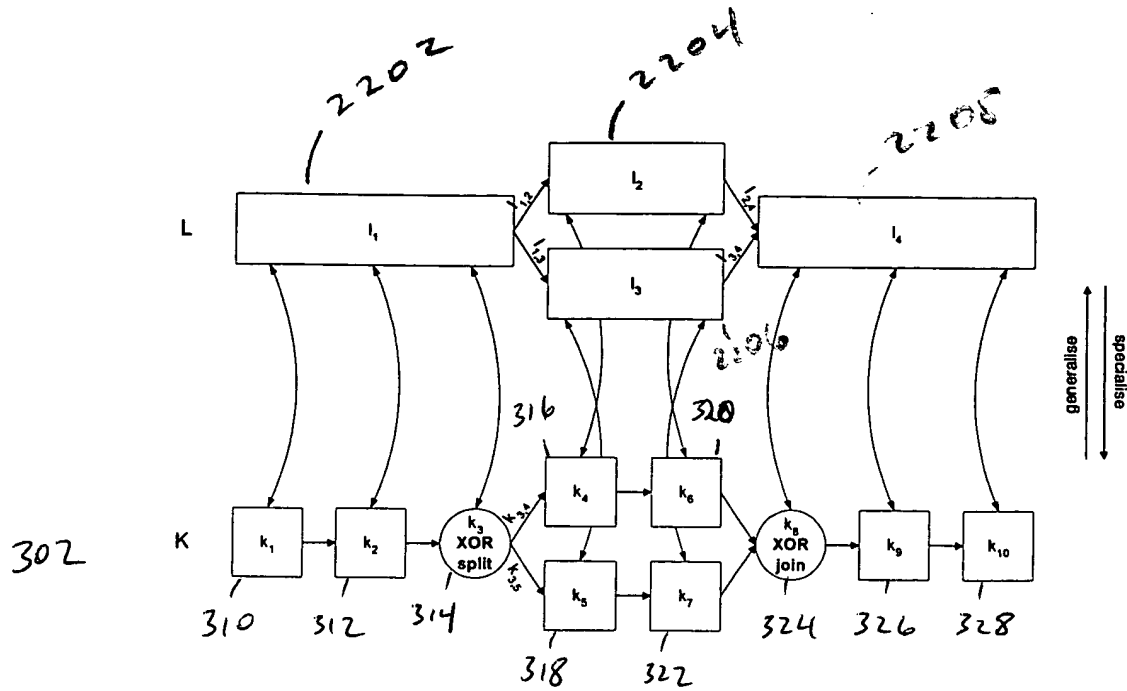


FIG. 22

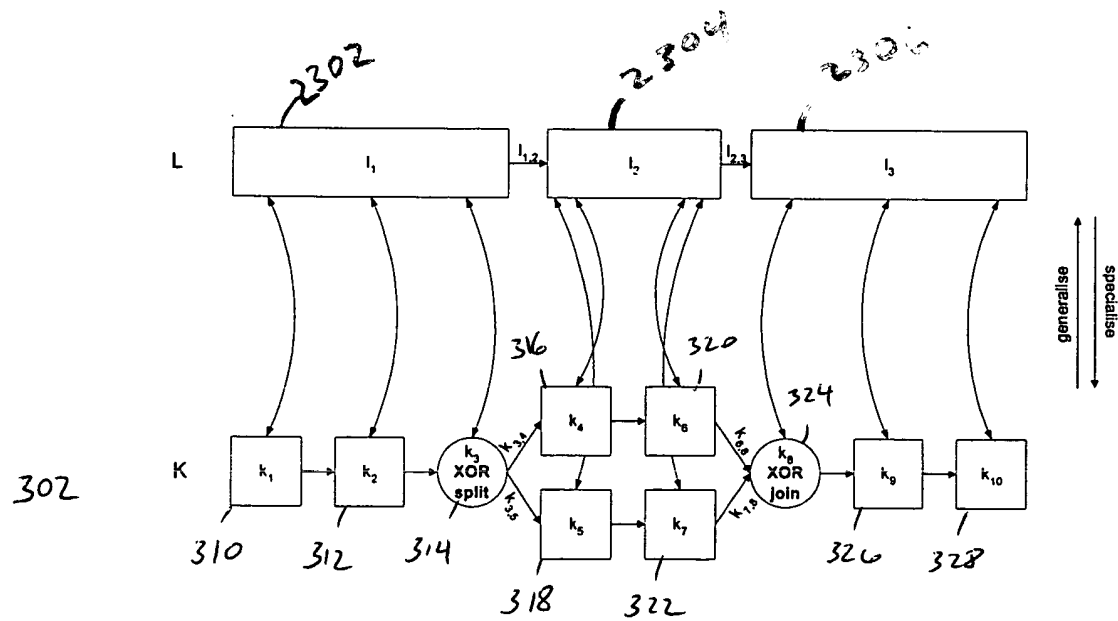


FIG. 23

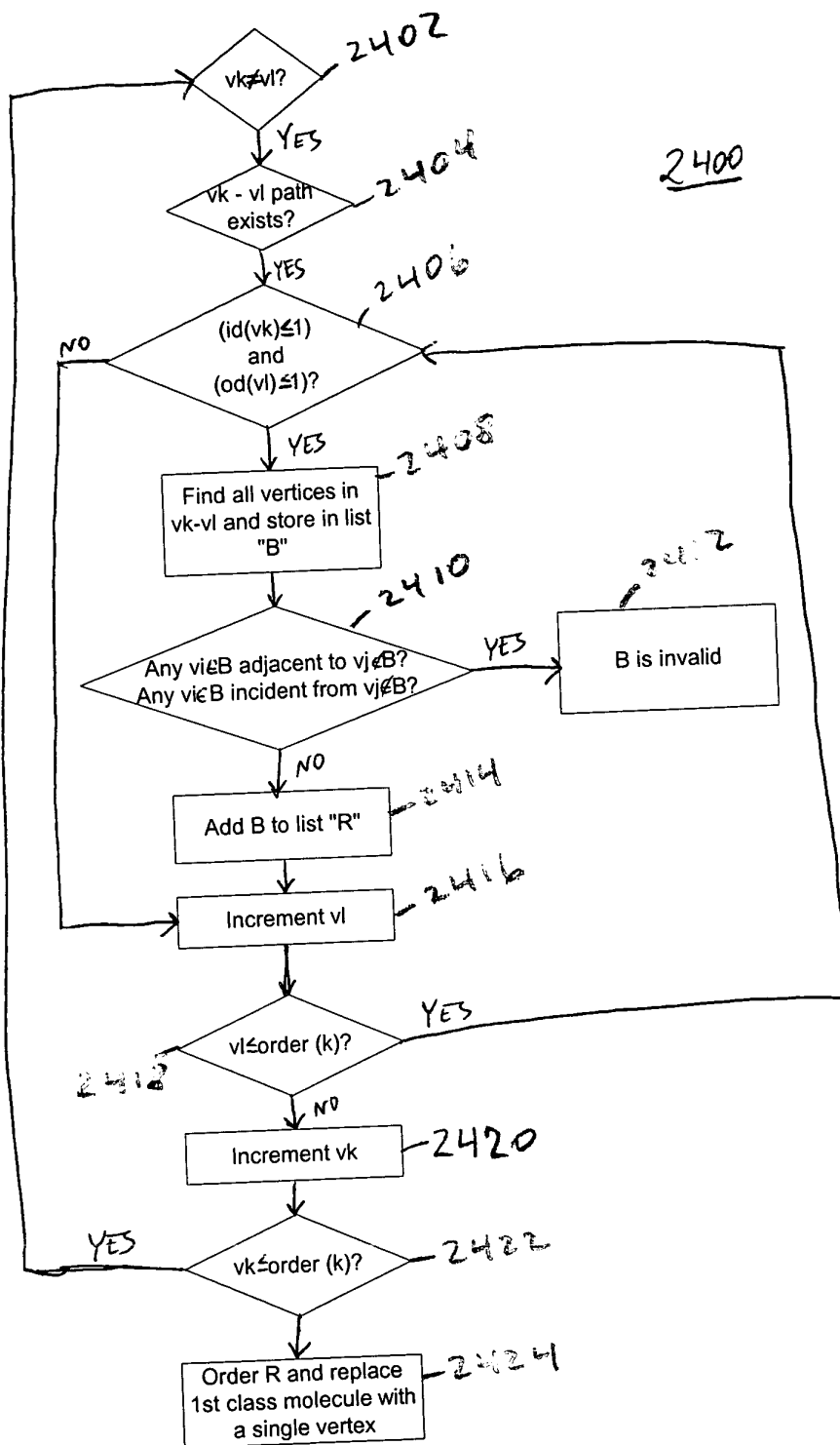


FIG. 24



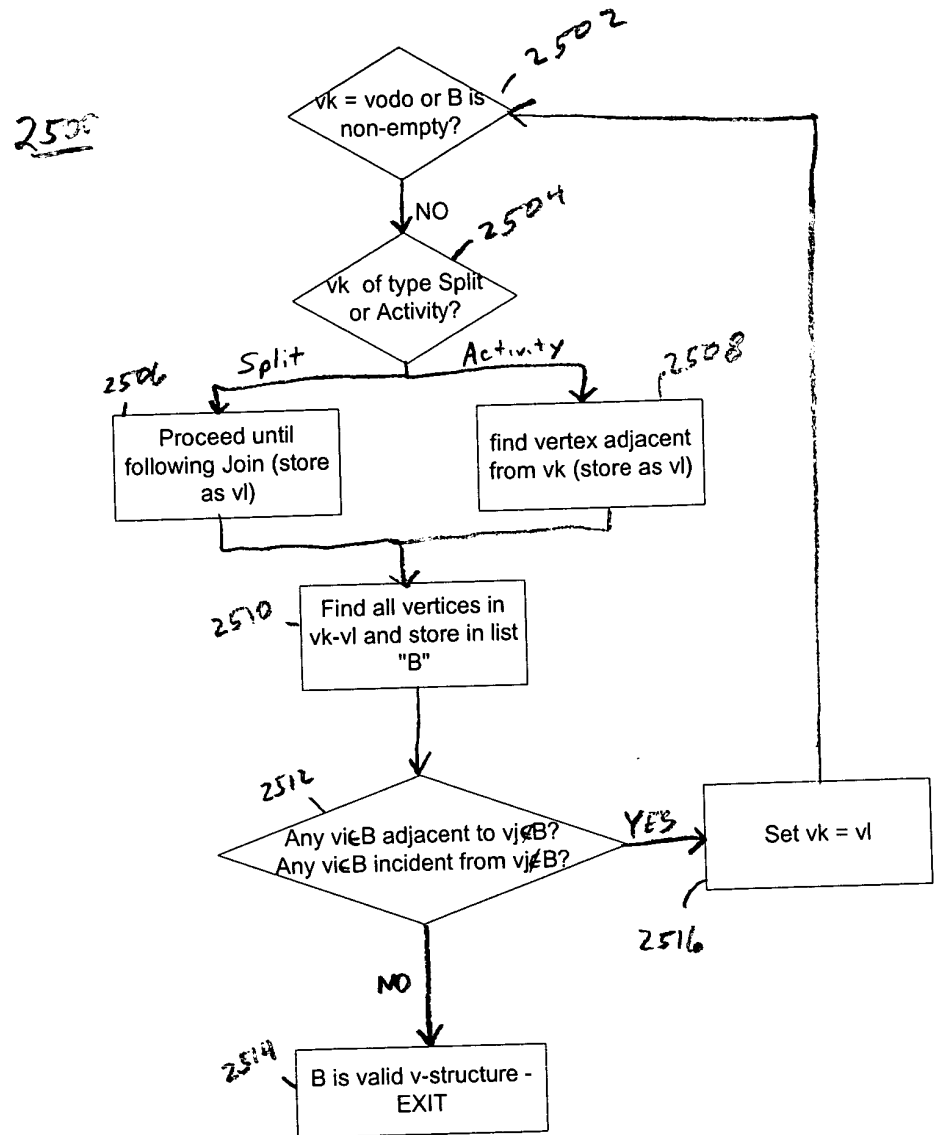


FIG. 25

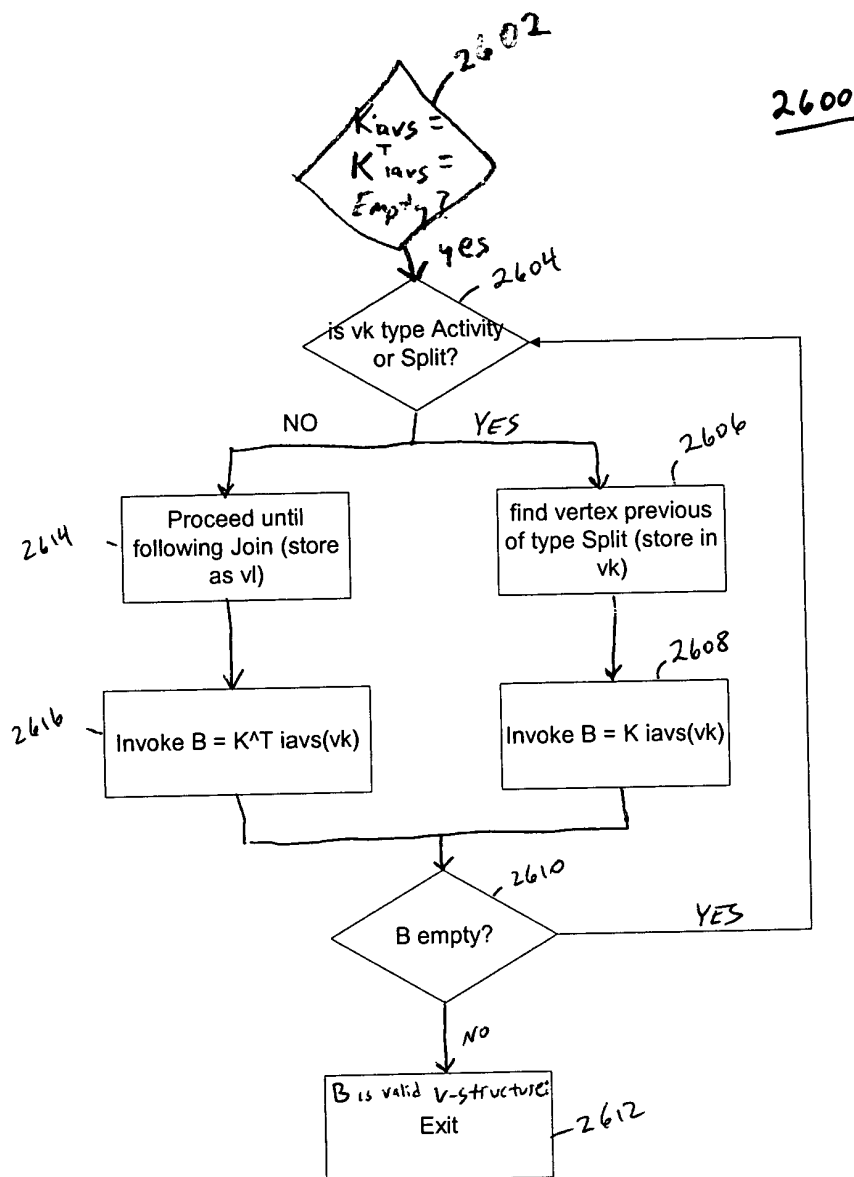


FIG. 26

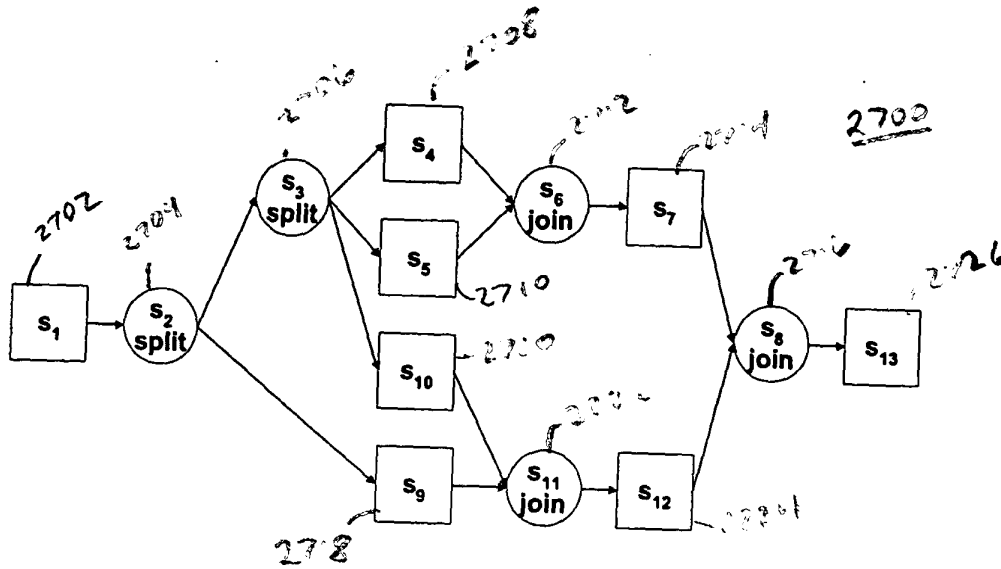


FIG. 27A

$v_k$	$S_{\text{iavs}_e}(v_k)$
$s_1$	$\{s_1, s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
$s_2$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
$s_3$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
$s_4$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
$s_5$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
$s_6$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
$s_7$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
$s_8$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
$s_9$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
$s_{10}$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
$s_{11}$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
$s_{12}$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}\}$
$s_{13}$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{11}, s_{12}, s_{13}\}$

FIG. 27B

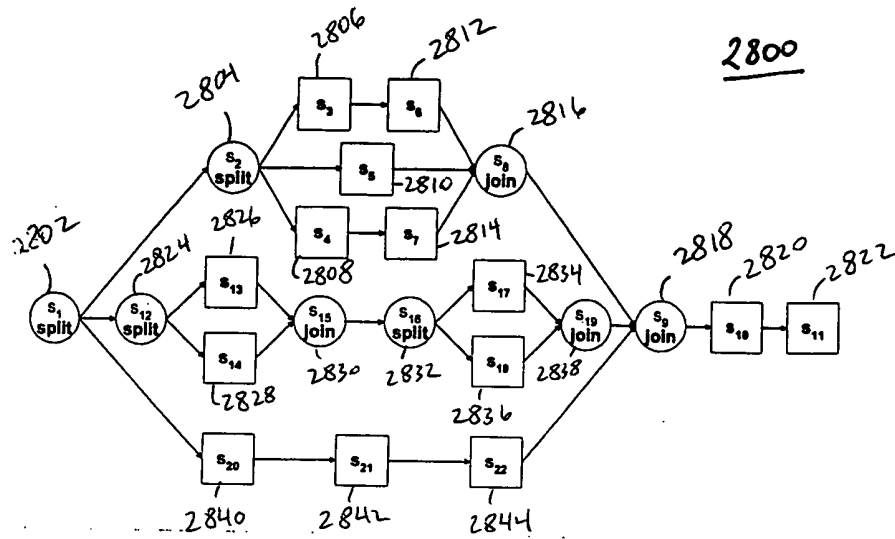


FIG. 28A

$v_k$	$S_{iavs_c}(v_k)$
$s_1$	$\{s_1, s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{12}, s_{13}, s_{14}, s_{15}, s_{16}, s_{17}, s_{18}, s_{19}, s_{20}, s_{21}, s_{22}\}$
$s_2$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8\}$
$s_3$	$\{s_3, s_6\}$
$s_4$	$\{s_4, s_7\}$
$s_5$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8\}$
$s_6$	$\{s_3, s_6\}$
$s_7$	$\{s_4, s_7\}$
$s_8$	$\{s_2, s_3, s_4, s_5, s_6, s_7, s_8\}$
$s_9$	$\{s_1, s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{12}, s_{13}, s_{14}, s_{15}, s_{16}, s_{17}, s_{18}, s_{19}, s_{20}, s_{21}, s_{22}\}$
$s_{10}$	$\{s_1, s_2, s_3, s_4, s_5, s_6, s_7, s_8, s_9, s_{10}, s_{12}, s_{13}, s_{14}, s_{15}, s_{16}, s_{17}, s_{18}, s_{19}, s_{20}, s_{21}, s_{22}\},$ $\{s_{10}, s_{11}\}$
$s_{11}$	$\{s_{10}, s_{11}\}$
$s_{12}$	$\{s_{12}, s_{13}, s_{14}, s_{15}\}$
$s_{13}$	$\{s_{12}, s_{13}, s_{14}, s_{15}\}$
$s_{14}$	$\{s_{12}, s_{13}, s_{14}, s_{15}\}$
$s_{15}$	$\{s_{12}, s_{13}, s_{14}, s_{15}\}$
$s_{16}$	$\{s_{16}, s_{17}, s_{18}, s_{19}\}$
$s_{17}$	$\{s_{16}, s_{17}, s_{18}, s_{19}\}$
$s_{18}$	$\{s_{16}, s_{17}, s_{18}, s_{19}\}$
$s_{19}$	$\{s_{16}, s_{17}, s_{18}, s_{19}\}$
$s_{20}$	$\{s_{20}, s_{21}\}$
$s_{21}$	$\{s_{20}, s_{21}\}, \{s_{21}, s_{22}\}$
$s_{22}$	$\{s_{21}, s_{22}\}$

FIG. 28B

2900

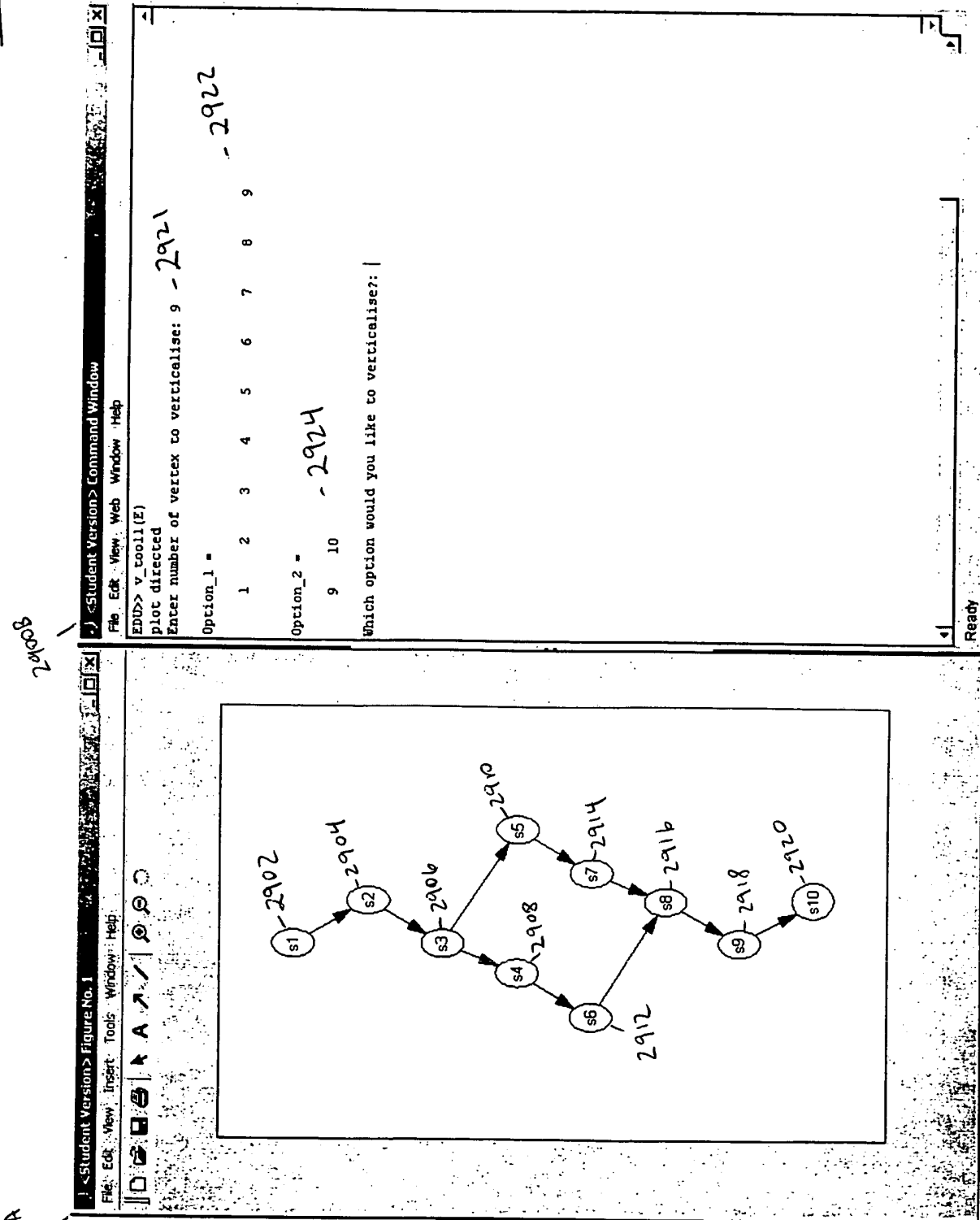


FIG. 29

3000

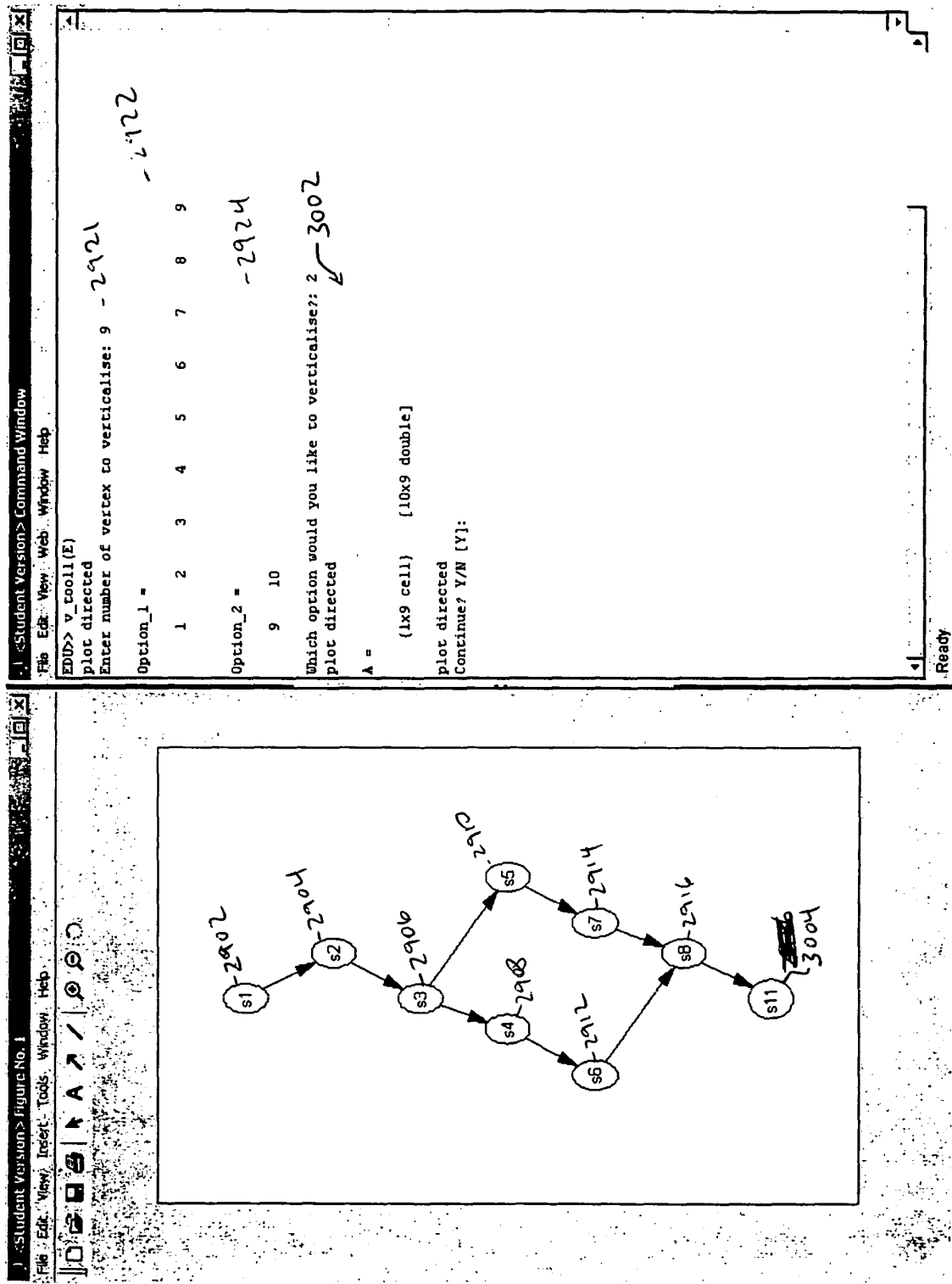


FIG. 30

3109

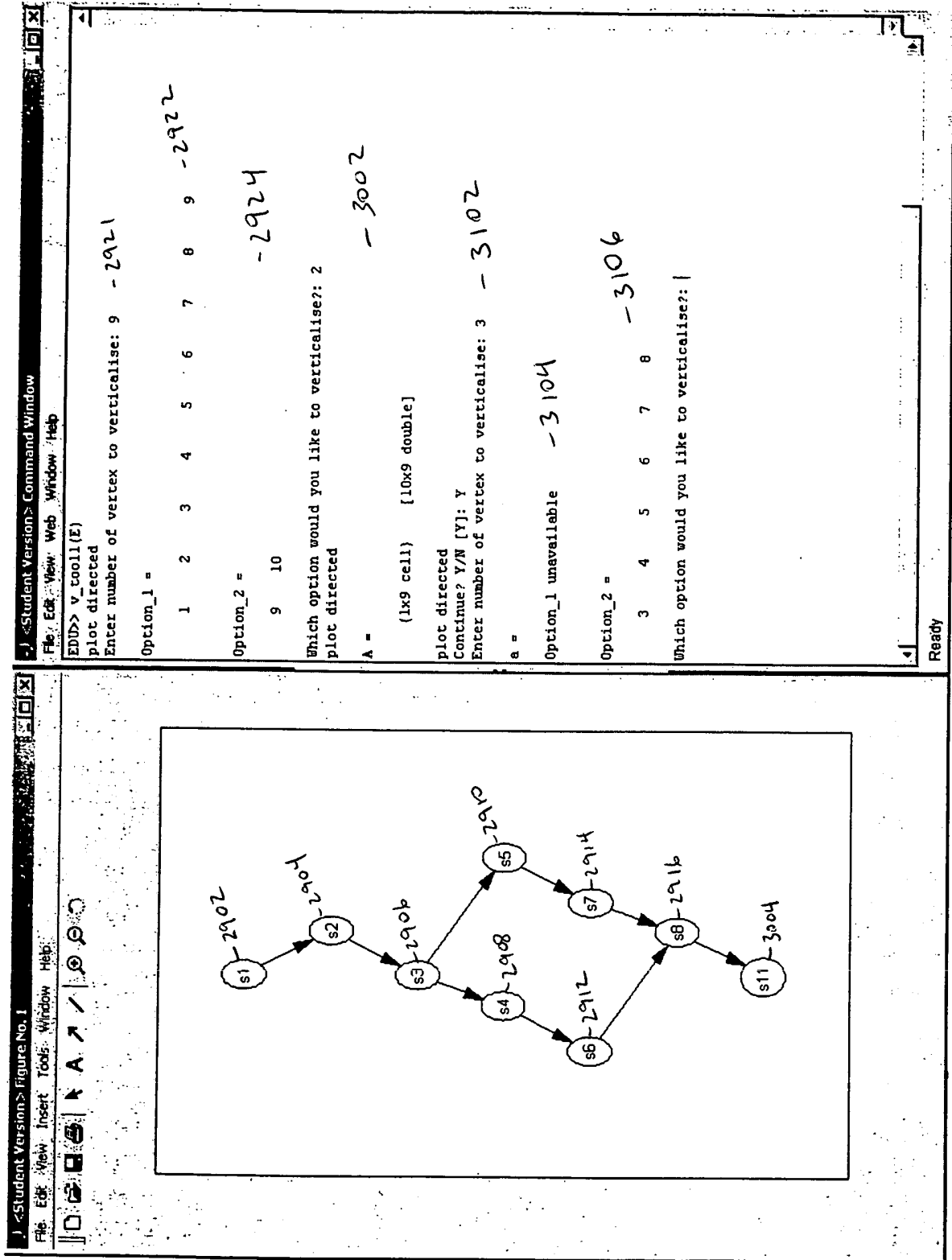


FIG. 31

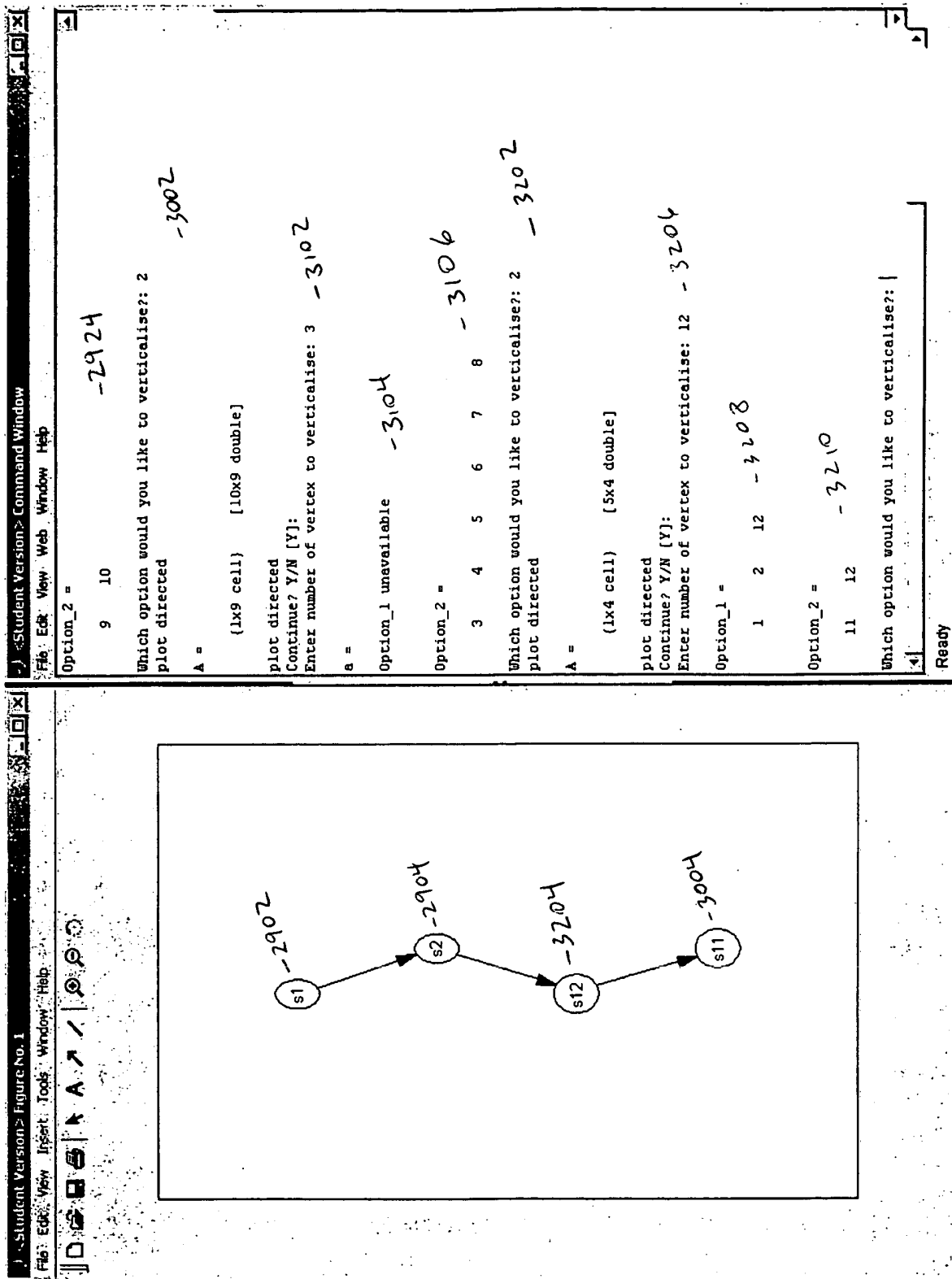


FIG. 32



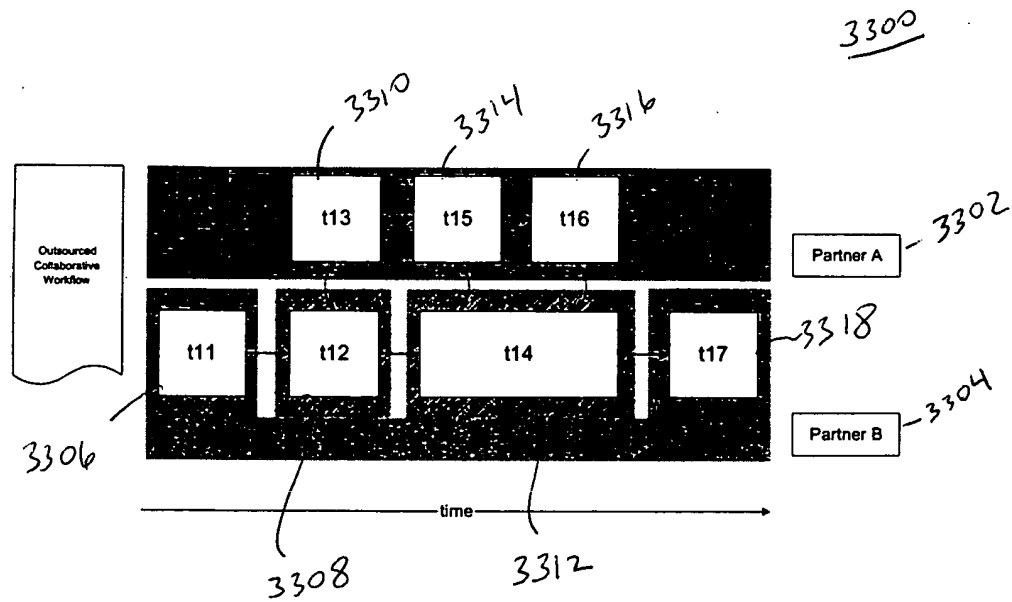


FIG. 33

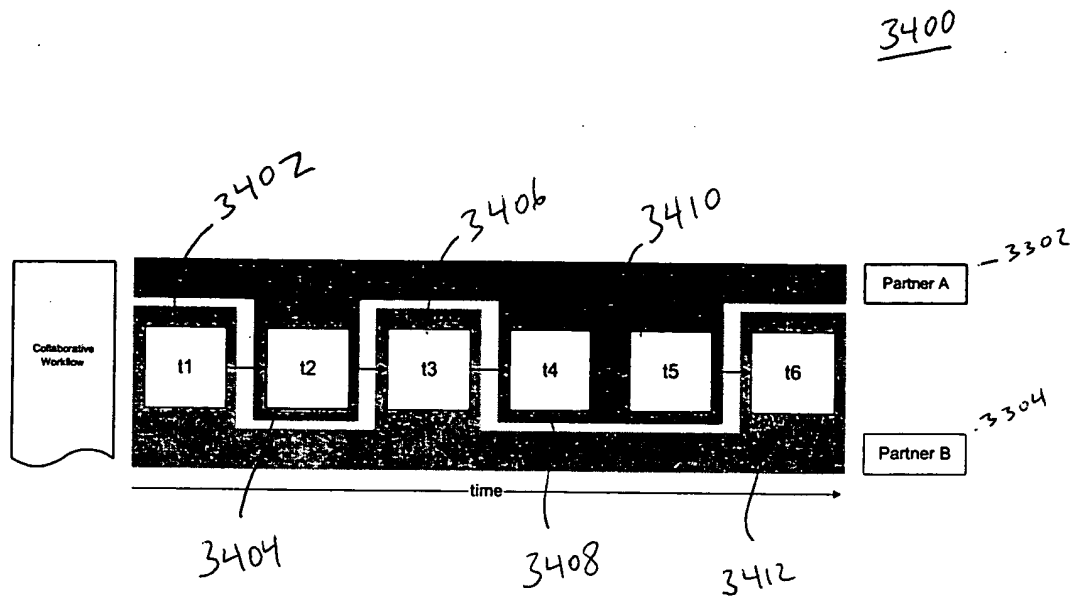


FIG. 34

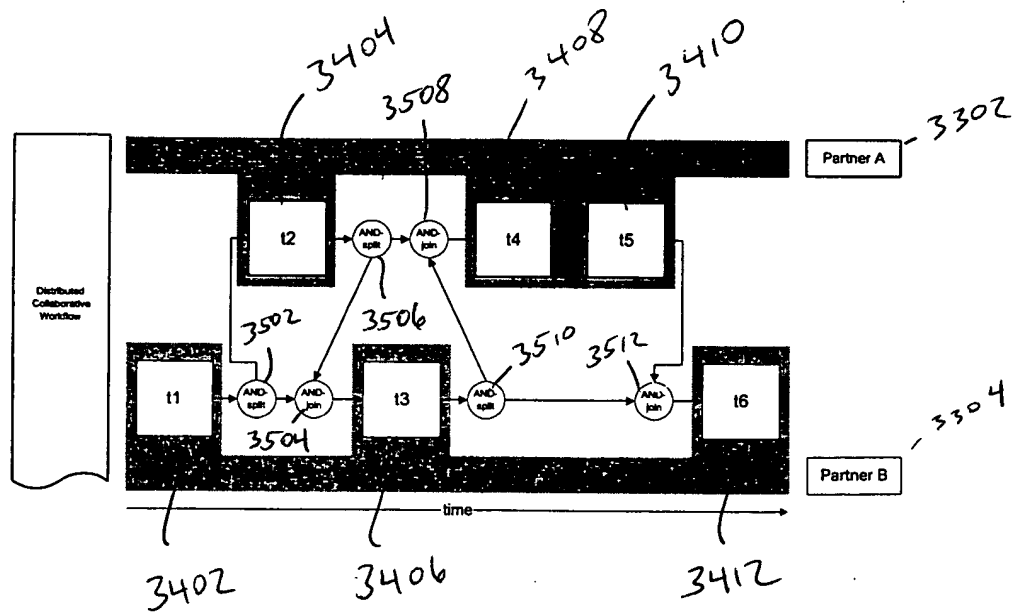


FIG. 35

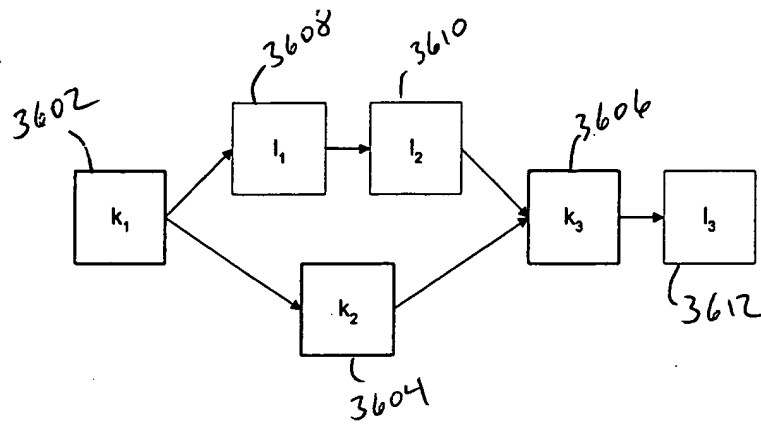


FIG. 36

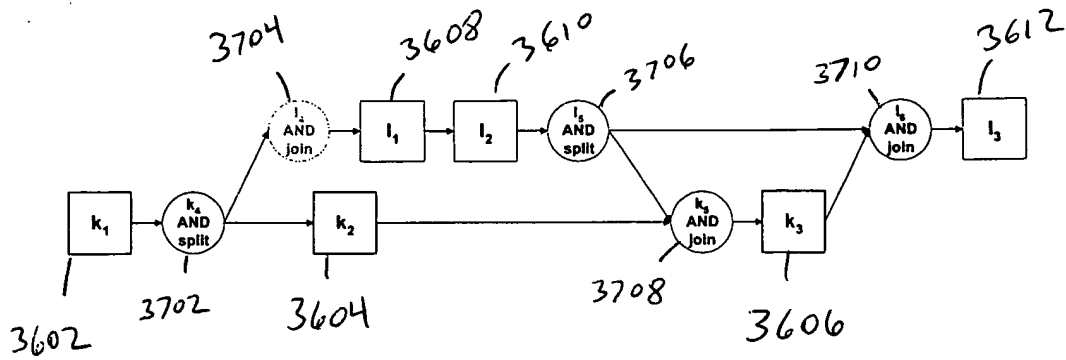

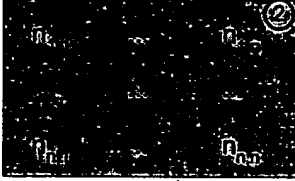


FIG. 37

3800

3802

column-index (j) row-index (i)	1	...	m	m+1	...	m+n
1				0	0	0
...				0	0	0
m				0	0	0
m+1	0	0	0			
...	0	0	0			
m+n	0	0	0			

— 3806

3804

FIG. 38

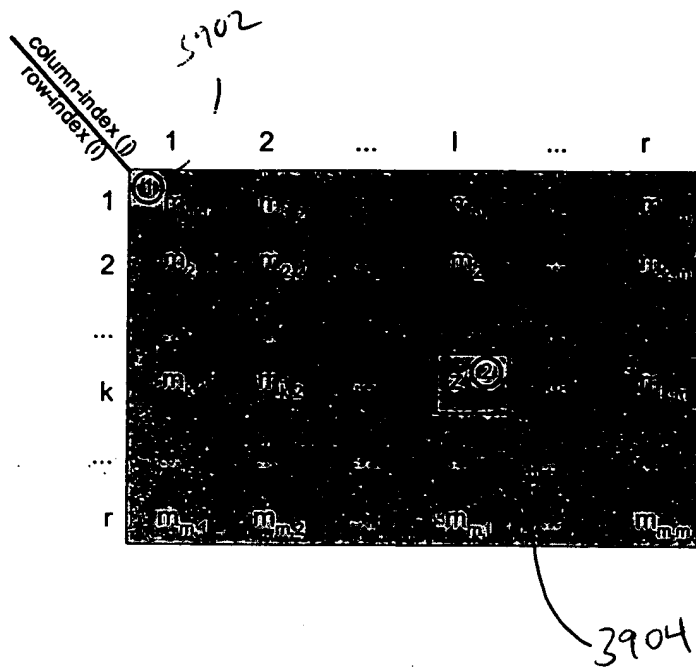
3900

FIG. 39

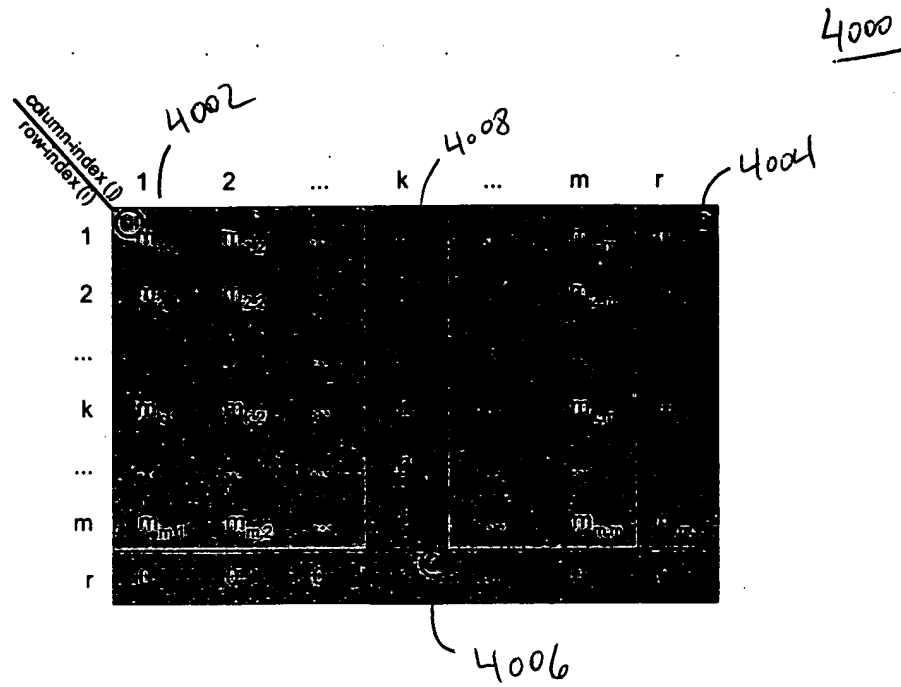


FIG. 40



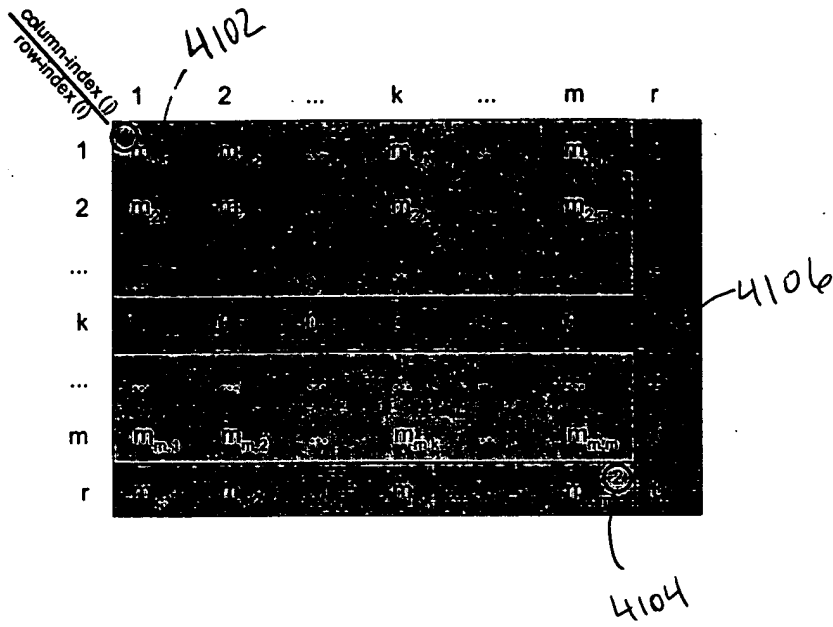


FIG. 41

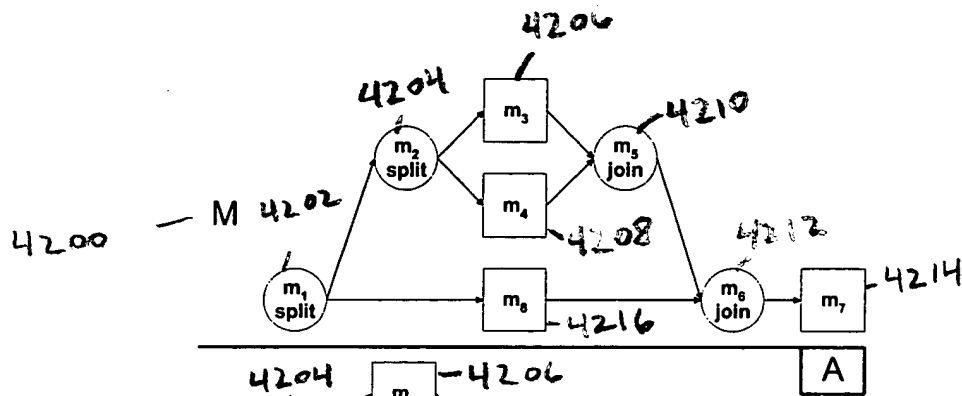


FIG. 42

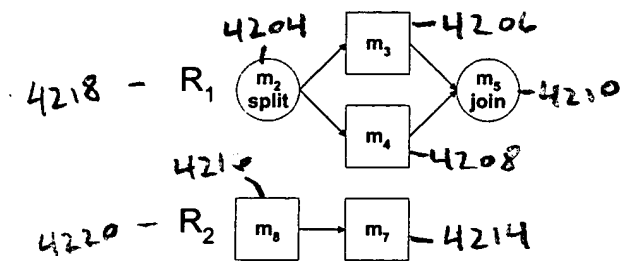


FIG. 42A

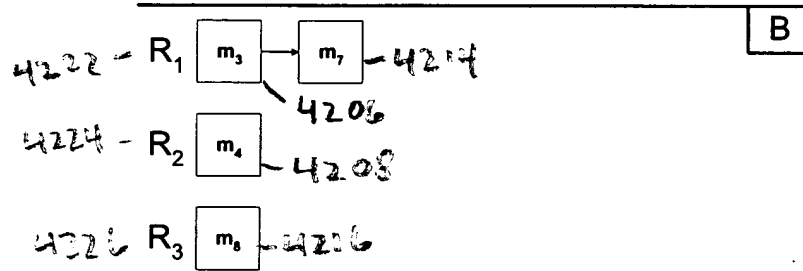


FIG. 42B

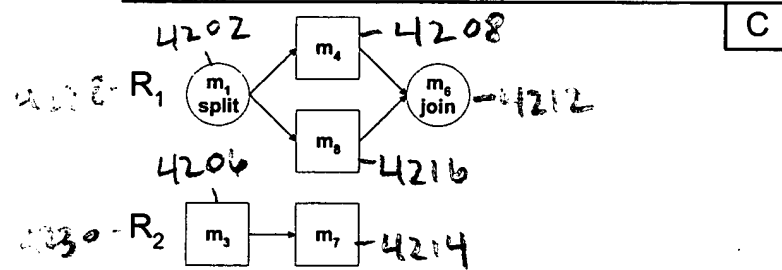


FIG. 42C

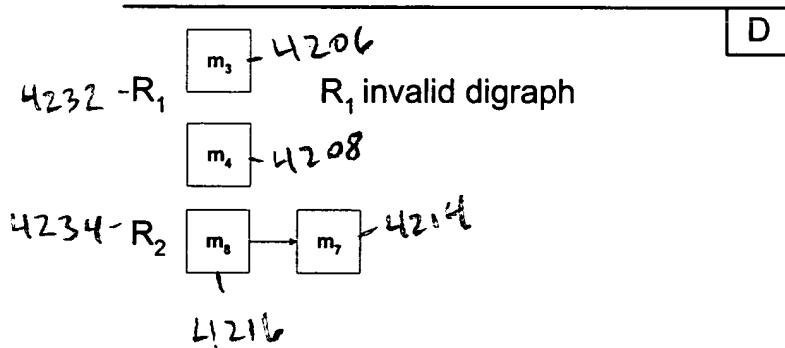


FIG. 42D

4300

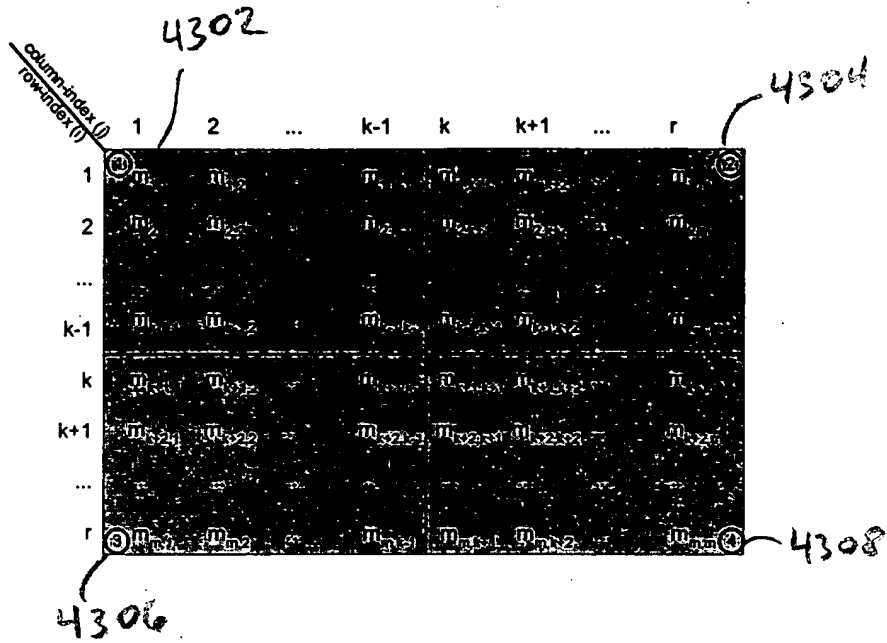


FIG. 43

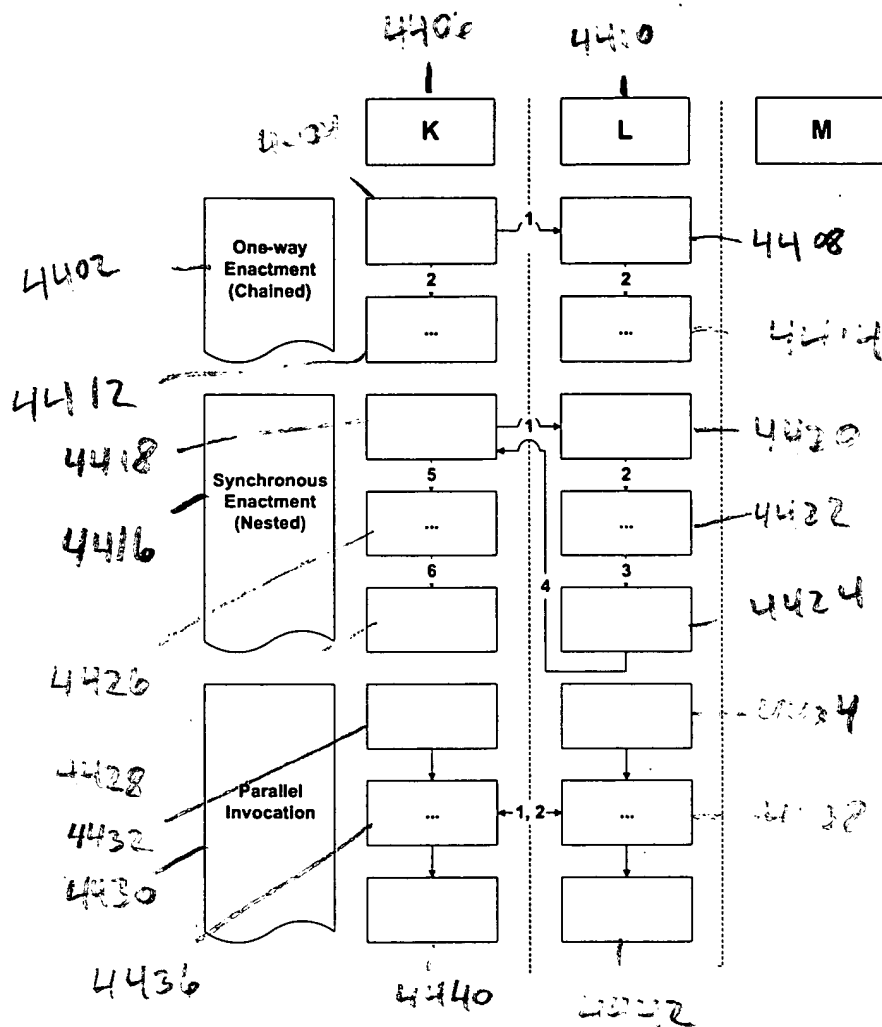


FIG. 44

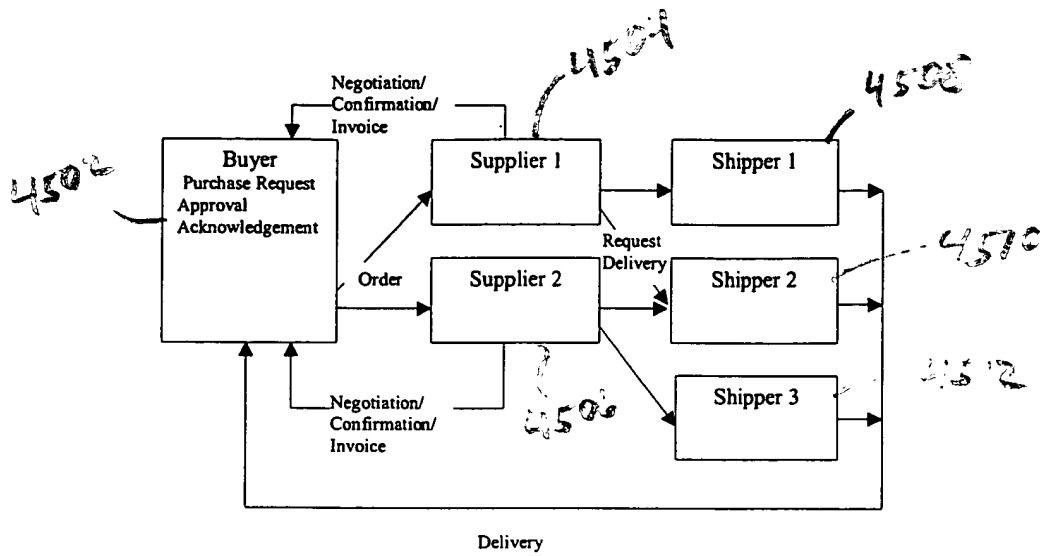


FIG. 45

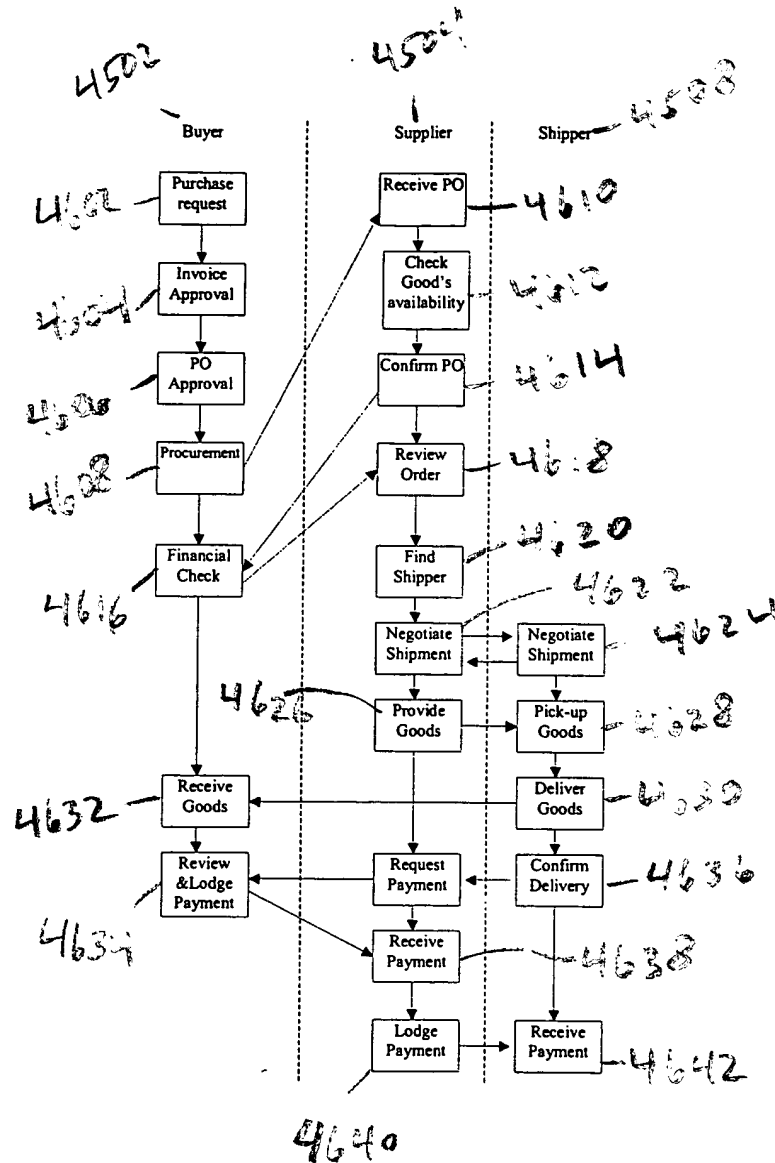


FIG. 46

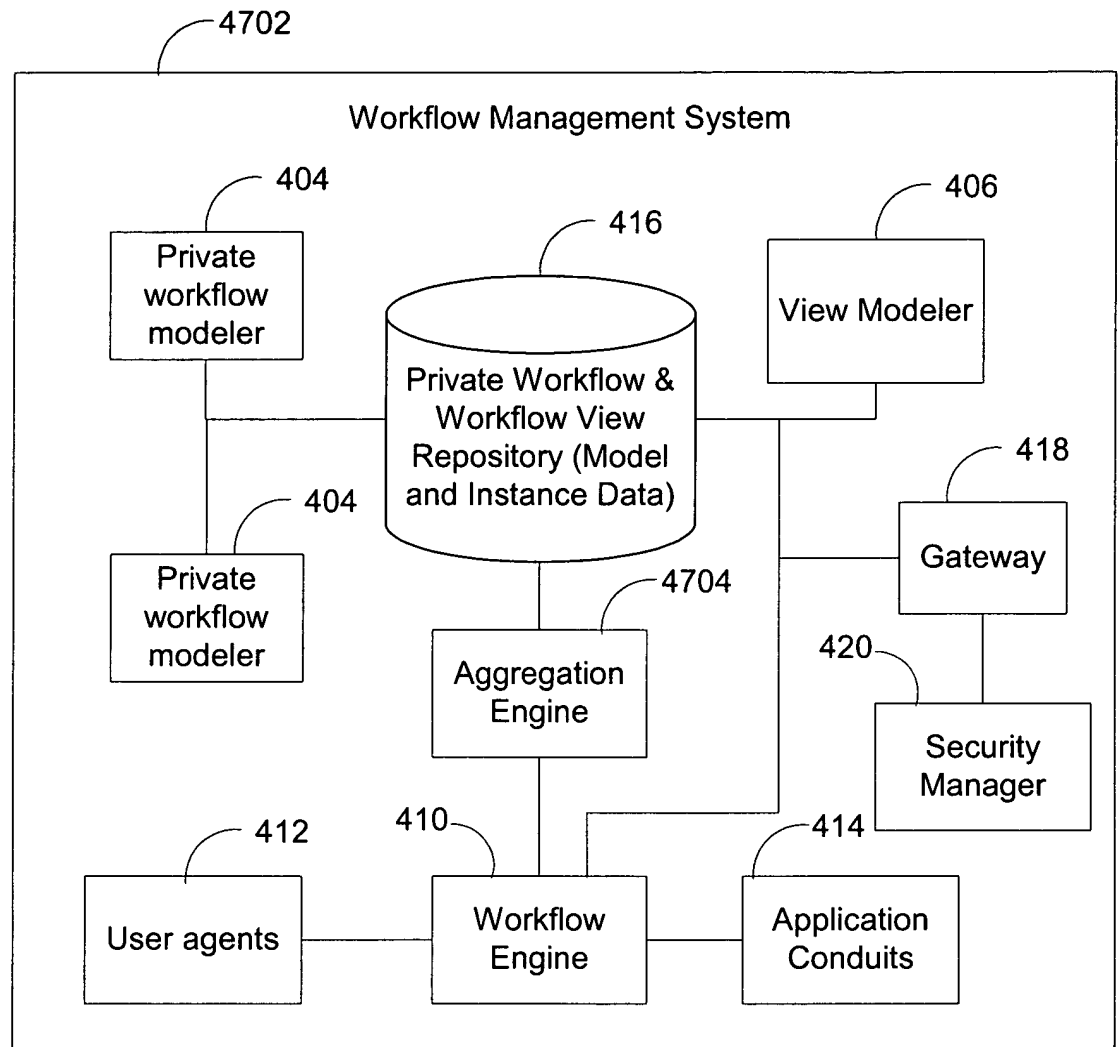


FIG. 47

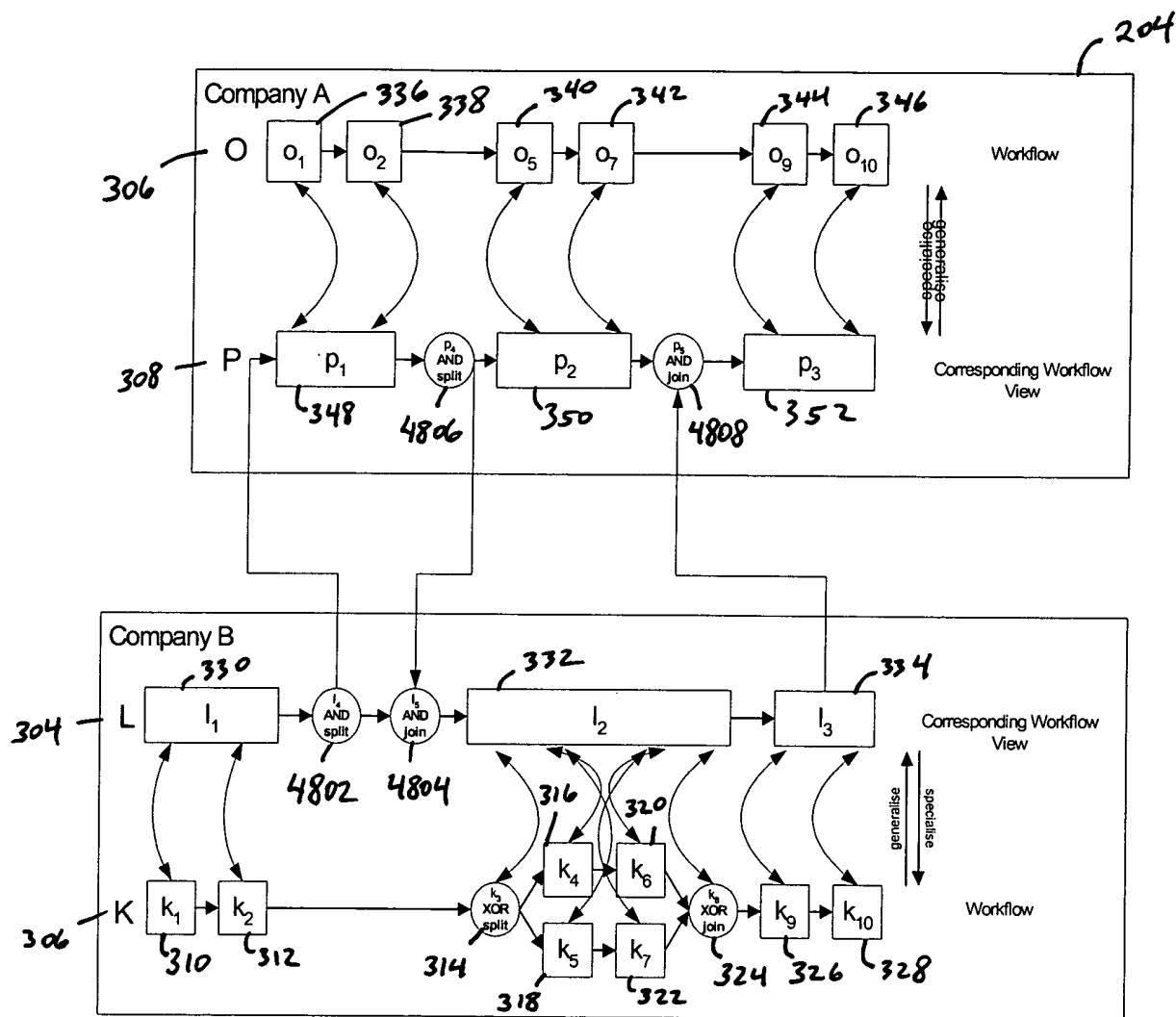
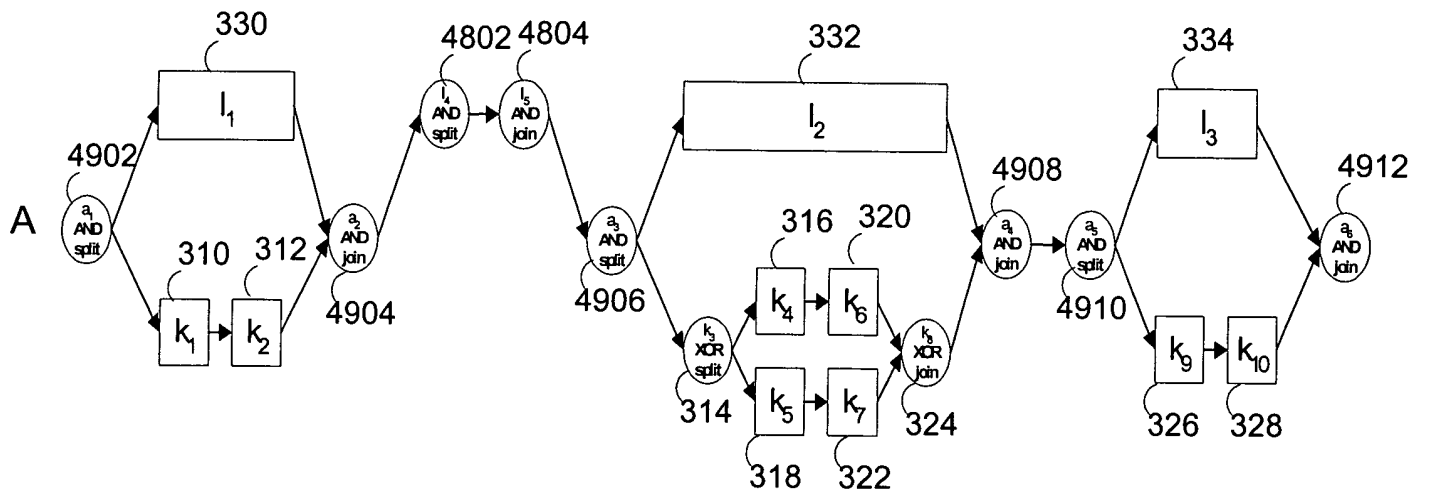


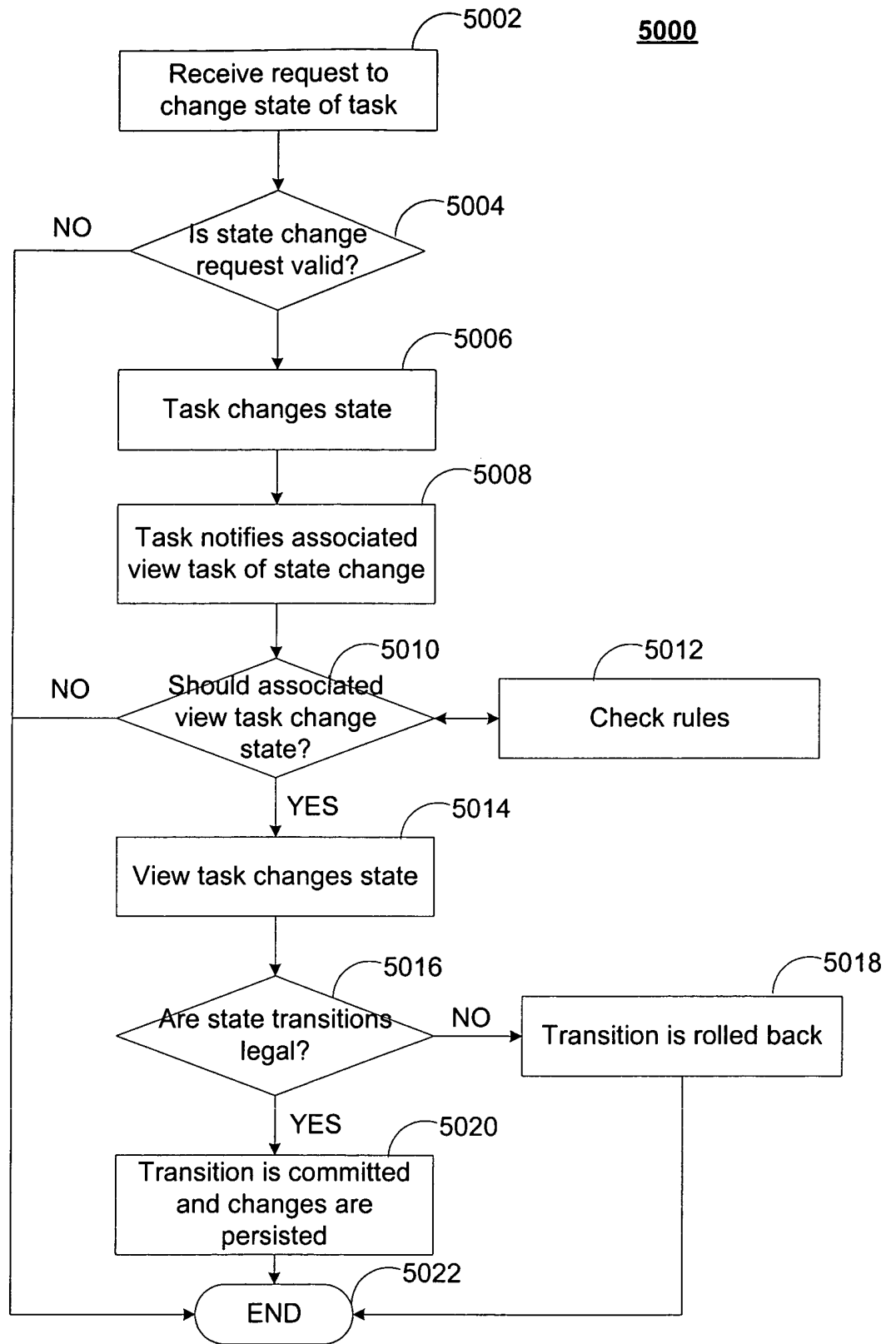
FIG. 48



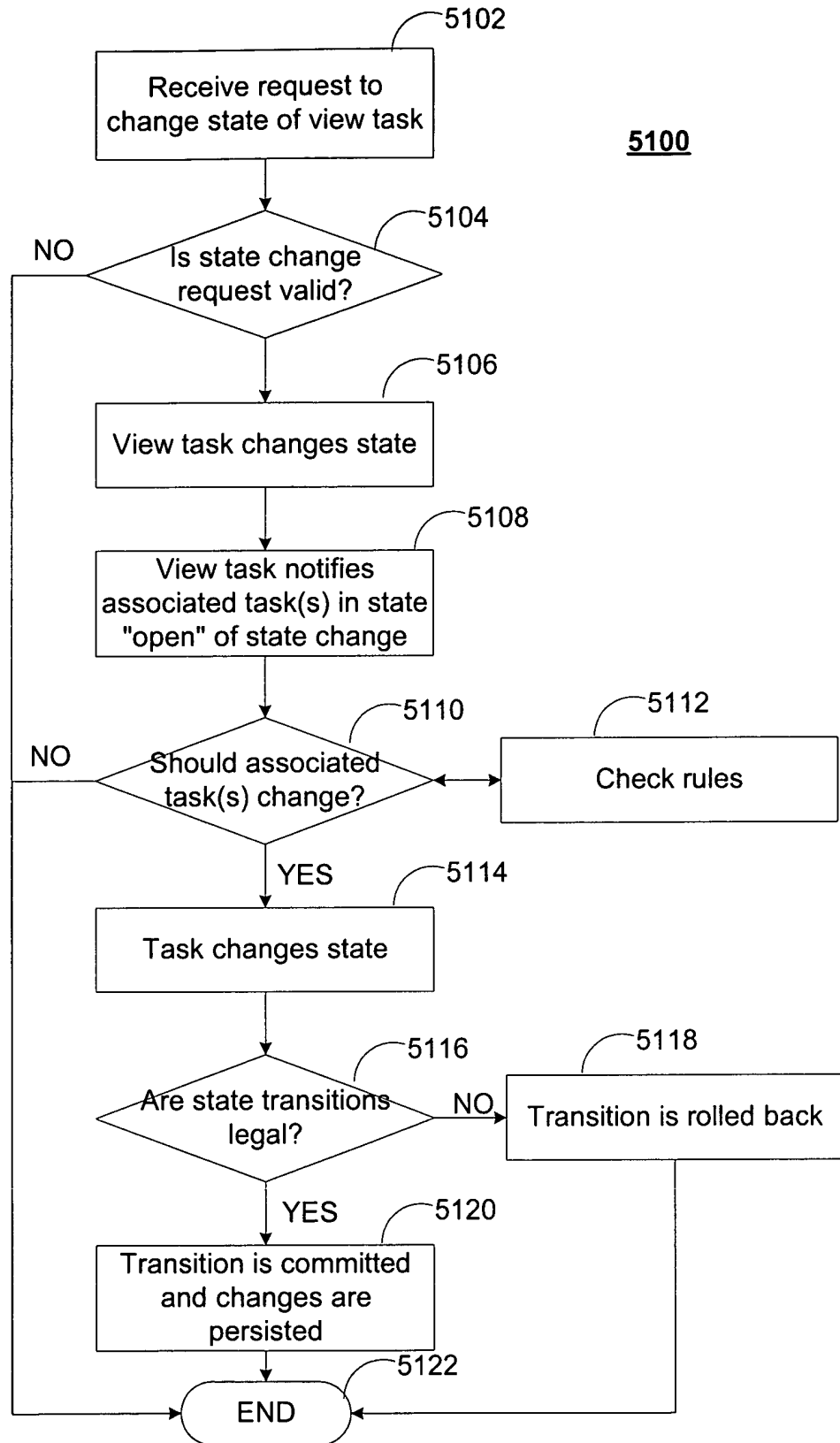
**4900**



**FIG. 49**

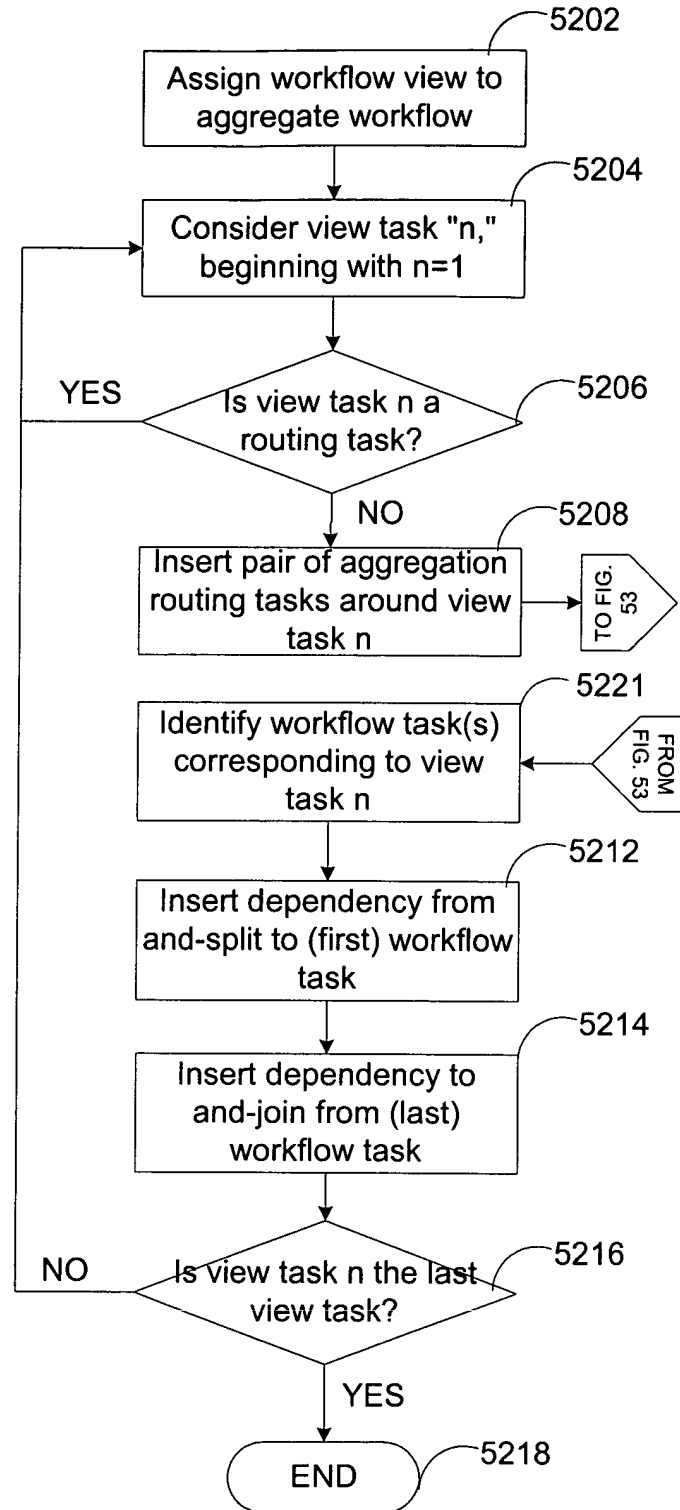


**FIG. 50**



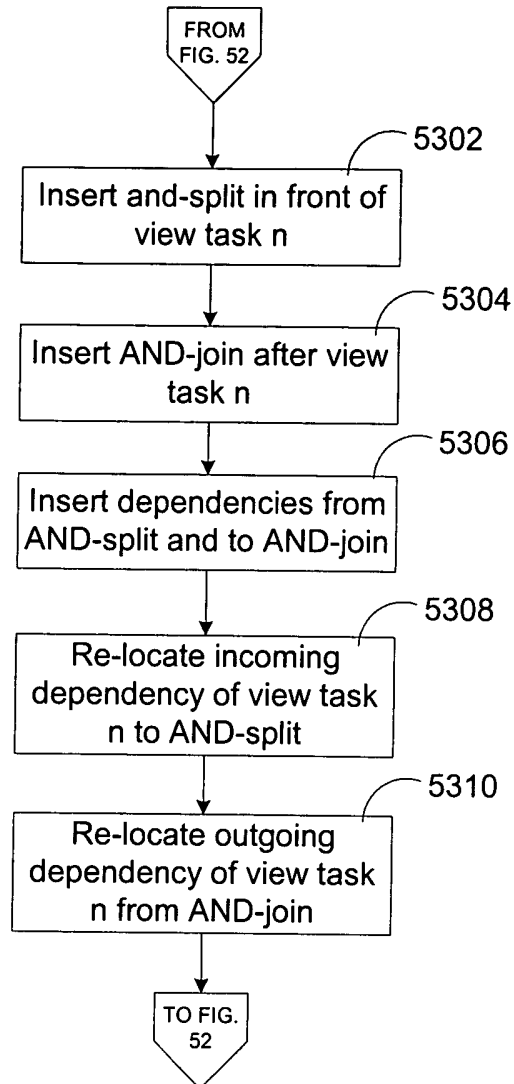
**FIG. 51**

**5200**



**FIG. 52**

**5300**



**FIG. 53**